

THE
CALCUTTA REVIEW.

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*'No man, who hath tasted learning, but will confess the many ways of
grieving by those, who, not contented with stale receipts, are able to manage
and set forth new positions to the world: and, were they but as the dust and
cinders of our feet, so long as in that notion, they may yet serve to polish
and brighten the ceremony of truth, even for that respect, they were not
utterly to be cast away.'--MILTON.*

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CONTENTS.

ART.—1	PAPER CURRENCY,	PAGE.
1.	SPEECH OF MR JAMES WILSON, DELIVERED IN THE LEGISLATIVE COUNCIL, CALCUTTA, MARCH 3RD 1860.	
2.	SPEECH OF MR. SAMUEL LAING, DELIVERED IN THE LEGISLATIVE COUNCIL, CALCUTTA, FEBRUARY 15TH 1861.	
3.	THE THEORY OF FOREIGN EXCHANGES. LONDON : EFFINGHAM WILSON. 1861.	1
II.	THE GREAT TRIGONOMETRICAL SURVEY OF INDIA.	
1.	JOURNAL OF THE ASIATIC SOCIETY OF BENGAL.	
2.	PROCEEDINGS OF THE ROYAL GEOGRAPHICAL SOCIETY OF LONDON.	
3.	DESCRIPTION OF CHINA, CHINESE TARTARY &c. TRANSLATED FROM THE FRENCH OF P. DE HAUPEL, PRINTED BY T. GARDNER. PARTRIDGE & COSE, LONDON. A.D. 1738.	
4.	RESULT OF A SCIENTIFIC MISSION TO INDIA AND RUSSIA. BY HELMUTH ADOLPHE AND BORIS DE SCHLEGELSWITZ VOL I LEIPZIG: F. A. BROCKHAUS. LONDON. THURNER & CO. 1861.	
5.	A SERIES OF PAPERS ON MOUNTAIN AND OTHER LOCAL ATTRACTION IN INDIA, AND ITS EFFECT ON THE CALCULATIONS OF THE GREAT TRIGONOMETRICAL SURVEY. BY JOHN H PRATT M. A. EXTRACTED FROM THE TRANSACTIONS OF THE ROYAL SOCIETY FOR 1854, 1855, 1858 & 1861. CALCUTTA: 1862.	
6.	ANNEE CENTRALE—RECHERCHES SUR LES CHAINES DE MONTAGNES, ET LA CLIMATOLOGIE. PAR A. DE HUMBOLDT. PARIS : GIDE, LEBLANC EDITION, 1813.	62

III. VERNACULAR EDUCATION IN ORISSA.	PAGE.
MR. SEFON KARR'S LETTER TO THE SECRETARY TO THE GOVERNMENT OF INDIA, DATED 19TH OCTOBER, 1860.	63
IV. EARLY MADRAS HISTORY.	
1. HISTORY OF THE MILITARY TRANSACTIONS OF THE BRITISH NATION IN INDOSTAN FROM THE YEAR 1715. BY ROBERT ORME, F. A. S. MADRAS: REPRINTED BY PHAROAN & CO.	
2. PUBLIC RECORDS,	87
V. THE LAND SYSTEM OF INDIA.	
1. DIRECTIONS TO REVENUE OFFICERS.	
2. REPORT OF THE INDIGO COMMISSION.	
3. REPORT OF SELECT COMMITTEE OF THE HOUSE OF COMMONS ON COLONISATION AND SETTLEMENT.	
4. COL BAIRD SMITH'S FAMINE REPORTS.	
5. ACT X. 1859?	109
VI CAVE-BROWNE'S 'THE PUNJAB AND DEHLI IN 1857.'	
THE PUNJAB AND DEHLI IN 1857, BEING A NARRATIVE OF THE MEASURES BY WHICH THE PUNJAB WAS SAVED AND DEHLI RECOVERED DURING THE INDIAN MUTINY, BY THE REV J. CAVE-BROWNE M. A., ASST CHAPLAIN BENGAL PRESIDENCY, CHAPLAIN OF THE PUNJAB MOVABLE COLUMN IN 1857 - 2 VOLS. 12MO. LONDON: W. BLACKWOOD AND SONS.	159
CRITICAL NOTICE	
CHILSSON AND WOODHALL'S MISCELLANY.	

THE CALCUTTA REVIEW.

- ART. I.—1. *Speech of Mr. James Wilson*, delivered in the Legislative Council, Calcutta, March 3rd 1860.
 2. *Speech of Mr. Samuel Laing*, delivered in the Legislative Council, Calcutta, February 16th 1861.
 3. *The Theory of Foreign Exchanges*. London: Effingham Wilson, 1861.

THERE is a story told of a farmer who had a considerable deposit in a local bank of whose stability whispered doubts had reached his ears. He went immediately, and, without hinting any reason for his demand, withdrew the whole of his deposit. He received the amount *in notes of the suspected establishment*. As soon as he had got outside of the office-door, he put his head in again, and with a smile and wink of triumphant shrewdness, exclaimed, 'Ye may break now if ye like.' *Se non e vero, e ben trovato*. The story is not a bad illustration of the ignorance which prevails widely, and in higher strata of society than the 'heavy clay' formation, on the subject of money in general, and paper money in particular. Familiarity with the coins which pass continually from hand to hand, or with the paper representatives of metallic currency which take their place, to a greater or less extent, in Europe, America and even in India, has not, certainly, bred contempt, but it has prevented most people from considering the nature of a circulating medium. Few care to enquire into familiar objects which are constantly before their senses or their minds; and fewer still are able to judge correctly of such objects. Hence it is that no subject, perhaps, in the whole range of political economy, is so little understood, popularly, and so warmly discussed by adepts, as money, and paper money more especially. We are far from attributing to the readers of the *Calcutta Review* ignorance so crass as that of the

farmer in our anecdote.* We trust, however, that it will not be considered a work of supererogation, if, before examining the plans which have been proposed for an Indian paper currency, we state as briefly as possible the established principles on which such a system should be based; and where great authorities differ, give their opinions and arguments, so far at least as to render intelligible the grounds of difference.

The experiment now being tried so cautiously in India deserves the closest observation from all who are interested in the welfare of the country. We shall point out hereafter several circumstances which render the introduction of a paper currency into India different from the same step in other countries. But we shall first consider, generally, the nature, advantages and dangers of paper money, with especial reference to bank-notes, its commonest form; and after applying the principles, thus established and illustrated by the history of the Bank of England and by the paper currencies of other European countries, to the present condition and requirements of India, we shall examine the schemes successively proposed by Mr. Wilson and Mr. Taing.

Paper money, 'properly so called' is defined by Mr. McCulloch to be 'paper made legal tender, and not legally convertible into gold, or anything else, at the pleasure of the holders, or at any given period.' In the following pages we do not use the expression in this restricted sense. We apply the terms to paper used as money, whether legal tender or not, whether convertible into metallic currency unconditionally and on demand, or on certain specified conditions and under restrictions as to time and place, or altogether inconvertible. With this preliminary definition, or rather explanation, we proceed to enumerate and discuss the advantages derivable from the substitution of paper for metallic currency.

The disadvantages attendant on the use of a metallic circulating medium serve, in some degree, to point out the advantages of paper money. The principal are 1st, fluctuation in value of the metallic standard; 2d, expense of maintenance; 3d, difficulty and expense of transmission from place to place, owing to its weight and bulk. With regard to the first of these we shall only remark at present that the value of convertible paper fluctuates with that of the metallic currency into which it is convertible: while the value in exchange of inconvertible notes (if constituting the sole

* It is said that some of the Irish peasantry in 1798 used bank-notes as wadding for their muskets, with a view to break the banks.

medium of exchange) is solely dependent (*ceteris paribus*) upon the ratio which the quantity in circulation at any given time bears to the amount in the market of the commodities whose interchanges they effect, and fluctuates with their rates.

The second disadvantage attendant on a metallic currency—the expense of maintaining it—is obviated by the use of paper money in its stead. The cost of the material of which the latter is composed is inappreciable in comparison with the expense of keeping up a gold and silver currency. The real wealth of a country being dependent upon the amount of its net revenue, and money being, as Adam Smith pointed out, the only part of the circulating capital of a country the maintenance of which diminishes its net revenue, it follows that whatever lessens the expense of maintaining the fixed capital *and* money increases the wealth of the society. What the expense of keeping up a metallic currency actually is, may be more readily appreciated by considering a few figures. Estimating the British currency at £50,000,000, the annual interest upon this sum at 5 *per cent*, would amount to £2,500,000; to which should be added at least £500,000 yearly, for wear and tear and loss by shipwreck, fire, &c. The substitution of paper, therefore, for the whole of the fifty millions would be a clear gain of three millions annually to the country, making a trifling deduction for the intrinsic value of the paper employed. But France affords a still stronger instance of the expense of maintaining a metallic medium of exchange. Necker estimated the amount of her circulation at 2,200,000,000*f*; Penchet, lower, at 1,850,000,000*f*. Taking the mean of these two estimates, the interest at 6 *per cent*, would amount to 121,000,000*f*, yearly; to which adding 20,000,000*f*, for wear and losses as before, we arrive at a total loss to the country of 141,000,000*f*, yearly, or £5,640,000.

The expense of maintenance consists of two distinct parts. The one is actual, being the cost of replacing the coin lost in various ways with new coins, the material of which must be purchased with other commodities at its market price, which, like that of most other articles of commerce, depends ultimately on its cost of production. The other element of expense is virtual, being the amount which the country loses, or rather fails to gain, by keeping for domestic purposes a valuable commodity, for which a comparatively valueless article may be substituted, not only without disadvantage, but with positive benefit. ‘By using paper instead of gold,’ says Mr. McCulloch, ‘we substitute the cheapest instead of the most expensive currency; and enable the society, without loss to any individual to send abroad

'all cons.' The precious metals which, while used as currency, add nothing to the country's wealth but rather diminish it by the amount necessary to compensate wear and loss, when set free by the substitution of paper are sent to other countries in exchange for commodities which increase the wealth, comfort and happiness of the country which imports them. Adam Smith illustrates this substitution by comparing it to an improvement in machinery—the difference in cost between an old machine and a cheaper new one is added to the circulating capital of the owner. But his still more happy illustration, adopted by Mr. Mill, is his comparison of a 'judicious system of banking,' which is equivalent to a judicious substitution of paper of various kinds for the precious metals, to 'a wagon way through the air,' saving land for purposes of agriculture, but facilitating traffic as much as, (or more than), the ordinary road which it supercedes.

Of the third disadvantage of a metallic currency, wholly obviated by the substitution of paper; little need be said. The risk, difficulty and expense of transmitting large sums in gold are obvious enough, a thousand pounds sterling in gold coin weighing 21lbs Troy. But where, as in India the currency is silver and the distances great, and danger of robbery and expense of carriage and escort considerable, the weight of the ordinary circulating medium becomes a matter of very serious importance. £50,000 in British silver coin would weigh over five tons. An ordinary country bullock-cart would convey with difficulty, at the rate of ten miles a day, 40,000 rupees. On a smaller scale we all feel, every day, the inconvenience attending a silver currency.

'A currency is in its most perfect state,' says Mr. Ricardo, 'when it consists wholly of paper money, but of paper money of an equal value with the gold which it professes to represent. The use of paper instead of gold substitutes the cheapest in place of the most expensive medium, and enables the country, without loss to any individual, to exchange all the gold which it before used for this purpose for raw materials, utensils, and food; by the use of which both its wealth and its enjoyments are increased.' Taking this passage as a text, we shall briefly discuss some of the points involved in it, before considering the dangers and disadvantages to which the use of paper money is liable.

Paper is used to economize money in several different ways, to enumerate which will be sufficient. Bills of exchange, transfers of bank credit, cheques, and promissory notes obviate the necessity for the actual employment of the precious metals in mercantile

transactions. All these are included in the 'paper money' of the passage quoted above; but it is only with the last of them that we shall be occupied, except incidentally, in the following pages. Convertibility, that is the capacity of being exchanged for the amount of metallic or quasi-metallic currency which they profess to represent, is essential to the usefulness of bills of exchange and cheques. We shall see that for the purpose of carrying on all internal monetary transactions of a society, inconvertible notes may be sufficient; though in this case the term 'promissory' is scarcely applicable. Bills of exchange and cheques, therefore, are employed instead of the current circulating medium of the country, whatever this may be. What this best may be—whether metallic, or consisting of notes, or of notes *and* coin—is the question upon which we are at present engaged.

It will be observed that Mr Ricardo makes it essential to an ideally perfect currency, not that it should be paper convertible to coin at the pleasure of the holder, but that it should be of equal value with the amount of precious metal which it represents. How inconvertible paper may be kept up to this standard we shall see presently. That a paper immediately and unconditionally convertible, at the pleasure of the holder, can never fall below that standard is obvious. Even the restriction on convertibility nominally imposed on Bank of England notes—that they are necessarily changeable into cash only at the particular office from which they have been issued—does not in practice impair their perfect convertibility. But there are two other cases possible—a mixed currency, consisting of metal and inconvertible paper; and one composed of inconvertible paper only, or with a metal only as subsidiary, in the same manner as silver and copper (or bronze) are now used in the currency of the United Kingdom. To understand these two cases we must examine the principles on which the value of a currency estimated in other commodities depends.

Money—using the word in its most general sense—is only useful for effecting the exchange of other commodities. Except for saving the time and labor necessarily attendant upon barter, its importance and its value are insignificant. Money, therefore, and all other commodities are complementary in value, whether we consider the whole commercial world or any particular country. The value of all commodities actually for sale in the commercial world and the value of the means by which their transfer in sale is effected, must vary inversely. Supposing, then, gold to be a universal standard of value, any increase in the quantity of gold coin in circulation, unaccompanied by

any corresponding increase in the quantity of commodities offered for sale, must lead to a proportionate fall in its value—in other words to a general rise of prices in gold or other commodities.

What would thus obviously be true of gold if it were the sole and general medium of exchange is necessarily true of the circulating medium existing at any particular time in any country. 'That an increase of the quantity of money raises prices and a diminution lowers them, is the most elementary proposition in the theory of currency, and without it we should have no key to any of the others.' Prices in any country depend upon the proportion which the amount of commodities offered for sale bears to the quantity of currency in circulation, whether this consist of the precious metals, or of paper, or of both.

. But this simple principle, like many others on which the science of Political Economy is based, is only strictly applicable to a theoretically simple state of things. When we proceed to apply it to the complicated system of modern commerce, limitations, restrictions, and explanations must be taken into consideration. Some of these we must mention.

First, then, we must remember that as it is only that part of any particular commodity which is actually offered for sale that affects the price of that article, so it is only the money actually in circulation which affects prices generally. The banker's reserves, the miser's hoards, the secret store of the French peasant, and the stockingful of sovereigns stowed away in the Irish farmer's chimney, can have no influence upon prices until they are actually brought out for circulation.

Again: as increased quantities of gold drawn from the mines do not necessarily involve a fall in the value of the metal, (or, in other words, a universal rise of prices) —and of this fact we have had ample proof in the negative result of the enormous produce of the Australian and Californian mines—so increase of amount of currency does not of necessity imply a general rise of prices in any particular country. And the reason in both cases is the same. Increased trade requires increased means of every kind for carrying it on. There can, we apprehend, be no doubt that the fall in the value of gold, due to the immense quantities produced in recent years, has been retarded principally by the increase of commerce throughout the world. Similarly, increased activity of trade in any country demands a proportional increase of currency, which will not affect prices.

But the most important limitation to be imposed upon the principle of the interdependence of general prices and the quantity of the circulating medium is this, that it is strictly

applicable only to that simple state of things in which money only is used for purchasing purposes, and *credit* is unknown. *Ceteris paribus* general prices vary inversely as the amount of money in circulation, but credit is the most important of those other things which must be the same. General prices depend more, in a country like England, on the state of credit than on the quantity of money. 'For credit though it is not a productive power is purchasing power; and a person who, having credit avails himself of it in the purchase of goods, creates just as much demand for the goods, and tends just as much to raise their price, as if he had made an equal amount of purchases with ready money.*' This kind of credit which constitutes purchasing power *may*, certainly, be represented by a bill of exchange, which is a form of paper money; as when one dealer pays another by a bill on a third. But it also may, and frequently does, happen that a series of transactions between two merchants, involving the mutual transfer of goods to any conceivable value may require the intervention of money, metallic or paper, only to the trifling extent necessary for the payment of the residual balance of their accounts. We must remember then, that the purchasing power of an individual, (or of a community), consists of the amount of money in his possession, or due to him, *plus* the amount of credit at command: and that it is the portion of this purchasing power which is brought into exercise that affects prices.

Again; as money affects prices in proportion to its actual amount multiplied by the number of times it changes hands, so credit, which in respect of purchasing power is equal to money, produces an effect upon prices proportionate to the number of transactions it effects. Credit transferable is more influential than credit which effects but one purchase. Therefore, the amounts represented being equal, bank-notes influence general prices more powerfully than bills of exchange, and these more than book-credits. The last effect the payment of the balance remaining due between traders after a series of transactions; bills of exchange may effect five, six or more payments before being finally cashed, by the simple process of endorsement; while bank-notes pass freely innumerable times from hand to hand, and may never be ultimately cashed at all.

Starting now from the established principle that, *other things being the same*, the value of any currency of any country, estimated in commodities, varies inversely as its amount, and

* Mill's *Political Economy* II. 40.

remembering that credit in its various forms is the most important influence modifying the universal applicability of the principle, we shall proceed to apply it to the three cases before enumerated. We are now leaving out of consideration all forms of paper money except promissory notes, convertible or inconvertible, issued by Government or by Banks. We shall assume, for our present purpose, that the other forms of credit which economize money and affect general prices, remain stationary in amount.

We have already cursorily mentioned the case of a currency composed partly of gold or silver, and partly of convertible notes—as is the case in England. The notes, being immediately convertible on demand, are precisely equivalent in value to the precious metal which they represent. Should the quantity of paper be increased by a fresh issue, without proportional increase of commercial transactions, so that the total amount of currency in circulation exceeds the requirements of the community, the value of the entire currency falls. But the metallic portion of it bears an intrinsic value, almost uniform throughout the commercial world. Though depreciated in its own country it retains its market value abroad. It is exported at a profit, in quantity proportional to the increased amount of paper issued, which takes the place of the metal, and the old state of prices is restored.

It is evident that if the issue of notes be unrestricted this process of substituting paper for metal and sending the latter abroad may be carried to a considerable extent not only without injury to the community or individuals, but with positive benefit to the public as well as to the issuers. But it is also evident that, if no limit is imposed upon the issuers, the temptation to profit by the substitution of this paper for metal may be yielded to to such an extent as to endanger or destroy the convertibility of their notes.* There undoubtedly is a limit of safety in issue. There is, in every country, a certain amount of currency which may consist of paper without danger of its convertibility being tested by presentation at the issuing office for conversion into metal, except in case of unreasoning and

* The history of the Bank of England affords us an instance of an attempt to over-issue convertible paper defeating its object, and causing heavy loss in place of the profit expected. For many years it over-issued and had to coin from (£800,000) to £1,000,000 annually in order to change its notes which, being in excess of the requirements of the commercial world, were being returned upon its hands. For this purpose the Bank was obliged to buy gold at £4 an ounce, and issue it at £3-17-10½—thus losing between 2½ and 3 per cent upon the amount coined.

extraordinary panic—and even this exceptional case may be allowed for, its degree of probability estimated, and the amount of paper currency to be kept permanently afloat proportionably diminished. No doubt this limit is ascertainable by experience, and up to this limit the substitution of paper for metal is an almost unmixed good. The great practical question to be solved in the establishment of a system of paper currency which shall ensure the maximum of advantage with the minimum of risk is—how much paper may safely be issued without reserving gold or silver so as to render its convertibility *absolutely* certain? This is the great question upon which currency authorities are at issue. We shall have to consider it hereafter.

The next case to be considered is that of a mixed currency of metal and inconvertible paper.

So long as the paper issued is convertible there cannot be more than a transient general rise of nominal prices, because there cannot be more than a temporary excess of currency in circulation. When the whole of the metallic currency has been superseded by paper, if a further issue take place it is at once returned upon the issuers, and the total amount of circulating medium is thus kept at its normal level, corresponding to the amount of transactions which it has to effect. But it is quite different with inconvertible paper. Every note issued in excess of the commercial requirements of the country influences prices. The more paper is issued, the greater will be its depreciation, and the greater the divergence between paper and metallic prices. The holders of fixed incomes and creditors, public and private, are defrauded in proportion to the extent of depreciation. It is the obvious interest of the issuers, whether a Government or a Bank, to emit paper without limit, and every additional note increases the evil. The metallic part of the currency, has, as compared with commodities, a fixed value, pretty nearly uniform over all parts of the commercial world, because dependent, like the values of other commodities, upon the cost of production. But the other ingredient of the currency, the inconvertible paper, having no appreciable cost of production, varies in its value, (given a fixed number of commercial transactions to be effected), inversely as its quantity. The values of the two constituent parts of the currency being thus dependent upon two totally different conditions, there is obviously, a tendency to divergence, consequent upon the over-issue of inconvertible paper. In the case of a currency constituted as supposed, the duty of the Legislature (if there be one), is to devise means for resisting this tendency. If the circulating

medium of a country is to be composed partly of metallic and partly of inconvertible paper currency, two things are indispensable. The issue of paper must be limited, so that the whole currency shall not exceed the commercial requirements of the country; and,—which is rather the means of effecting the other than itself a distinct object of attainment—the values of the metal and the paper must be kept in correspondence—paper bearing the denomination of a certain number of pounds, or florins, or dollars, or rupees, must exchange freely anywhere within the limits of the country for an equivalent nominal amount of coin.

The former of these objects is attainable by vesting the power of issuing inconvertible paper which is to be legal tender in a department of Government, or in a commercial body subject to the control and constant supervision of Government. (The country in which, owing to the possible or certain ignorance or dishonesty of Government, this cannot be safely done, should not, under any circumstances, adopt the use of inconvertible paper). The latter can be effected by observing the market price of gold and silver bullion, comparing it with the mint price, of the same, and contracting or expanding accordingly the issue of paper. When the market price of bullion estimated in paper rises above the mint price, the paper is depreciated and its issue must be contracted. If the mint price of gold in paper be £3-17-10½ per ounce Troy, while, if we want to buy gold in the market we have to pay £4 in paper for the same ounce, the paper is depreciated to the extent represented by the divergence of the two prices. The total amount of currency in circulation exceeds the commercial requirements of the community in that proportion. The remedy lies in withdrawing the superfluous paper from circulation until the mint and market prices again coincide.

The same method is obviously applicable to the case where the entire currency of a country consists of inconvertible paper, except, of course, some subsidiary metal. The Government, which is generally in this case the sole issuer could, if it were inclined, maintain its paper on a par with metal by observing the correspondence or divergence between the nominal value of the former and the market price of bullion used for the arts. But the Governments which issue inconvertible paper rarely trouble themselves with such minutiae, being generally content with the immediate and obvious profit attendant upon paying their servants and their creditors with paper which costs them nothing, and leave the evils of paper money daily deteriorating in value to be met and remedied or endured by their successors.

Conditional convertibility is, as regards effect upon prices, the same as inconvertibility. Notes only convertible on the fulfilment of some condition, or at some distant date, would certainly in comparison with notes absolutely convertible, be subject to a discount, as they would be in comparison with metal. The Scotch notes mentioned by Adam Smith, in which an 'optional clause' was inserted, circulated at a discount. So did the old Yorkshire paper, in which convertibility was made dependent upon the holder's producing before the issuer change for a guinea. Notes issued by the North American States, as well during the struggle for independence as before it, were made payable in Government paper, which, again, was not convertible into cash for a certain number of years; and legislation, (as in the case of Pennsylvania, in 1722), making penal any difference between such paper and metallic currency, was ineffectual to prevent depreciation, which (in dealings with foreigners at least) extended as far as 30 per cent. As far as regards internal commerce, however, such imperfectly convertible paper might have been maintained by the simple expedient of limiting its amount.

In enumerating the advantages arising from the substitution of paper for the precious metals we included the profit to the country. This may be considered from two points of view, which may sometimes, (as is, or was, intended in our Indian system), coincide. There is first the addition to the wealth of the community generally, by the amount of commodities of necessity, comfort, and luxury purchased by the gold and silver for which paper has become an efficient substitute. There is, secondly, the profit accruing to the issuers themselves, who find their capital increased by the amount of all or nearly all of their paper which is in circulation. It will be sufficient for the present to quote, on this subject, the following passage from a chapter of Mr Ricardo's work on *Currency and Banks*, from which we have already made an extract.

'In a natural point of view it is of no importance whether the issuers of this well-regulated paper money be the Government or the Bank: it will, on the whole, be equally productive of riches, whether it be issued by one or by the other; but it is not so with respect to the interest of individuals. In a country where the market rate of interest is 7 per cent, and where the State requires for a particular expense £70,000 per annum, it is a question of importance to the individuals of that country whether they must be taxed to pay this £70,000 per annum, or whether they could raise it without taxes. Suppose that a million

‘of money should be required to fit out an expedition. If the State issued a million of paper and displaced a million of coin, the expedition would be fitted out without any charge to the people; but if a Bank issued a million of paper, and lent it to Government at 7 per cent, thereby displacing a million of coin, the country would be charged with a continual tax of £70,000 per annum; the people would pay the tax, the Bank would receive, and the society, in either case, would be as wealthy as before. The expedition would have been really fitted out by the improvement of our system, by rendering capital of the value of a million productive in the form of commodities, instead of letting it run on unproductive in the form of coin; but the advantage would always be in favor of the issuers of a paper, and as the State represents the people, the people would have saved the tax if they, and not the Bank, had issued this million.’*

To this subject of profit we shall probably recur.

However, it is scarcely necessary to remark that there are dangers and drawbacks attending the use of a paper currency. Even Adam Smith, fully alive as he is to the advantages of such a circulating medium, as illustrated by his comparison already quoted, is quite sensible to the dangers which attend it. ‘The commerce,’ he says, ‘and industry of a country supported upon the Dædalian wings of paper currency, though increased in amount, will not be so secure as when resting on the solid ground of gold and silver.’ Having briefly pointed out the benefits of a paper currency, we now proceed to consider the disadvantages and dangers to which it is liable.

The reserve of precious metals on which a convertible paper currency is based may fall into the hands of an invading enemy who may thus find an immense amount of gold and silver stored up in one place and ready to his hand. It is unnecessary to dwell upon the serious consequences of such a blow as this—a blow which would be severe in proportion to the degree to which the substitution of convertible paper for coin had been carried, and which would therefore fall with greater weight upon England than upon any other European country.

Insolvency of the issuers of convertible paper leads to widespread distress. Confidence in the stability of the issuers is theoretically essential to the voluntary reception of bank-notes: but in country places it might often happen in England, in the

old days of abundance of country-banks, all issuing notes, that a farmer, or labourer would be practically obliged either to take payment in country notes or not at all. Most of those who suffered from the wholesale insolvency of country banks in the commercial crisis of 1792-3, when one hundred of these institutions stopped payment and more than fifty of them perished, knew nothing about 'legal tender' or 'convertibility,' nor had they any misgivings as to the stability of the issuing banks. In 1825 seventy issuing banks were swept away in less than six weeks, inflicting heavy loss upon the holders of their paper. These and similar instances which could easily be given from the commercial history of Great Britain illustrate one serious danger which may attend a mismanaged paper currency. The enormous and uncontrolled multiplication of issuing Banks in the United States, with their frequent insolvencies, affords another fearful example.*

The evils arising from possible insolvency of the issuing parties can, however, be obviated to a greater or less extent by judicious legislation. Banks may be compelled by law to give adequate security for the convertibility of their paper on demand, and frequent periodical publication of the amounts of their issues and of the coin or bullion retained to meet demands. The proportion always to be maintained between these two amounts may also be fixed by law, at a point which multiplied experience may have shown to be sufficiently safe. Such restrictions may be enforced without diminishing the profit to which the issuing body or person is fairly entitled. This is a question of detail. Unskilful, reckless, or dishonest bankers would probably issue as much paper as they could float, in hope of increased profit, and regardless of exposing the community to risk of loss by possible insolvency. But prudent issuers probably would not, if their operations were unrestricted, exceed the amount or proportion of issue which the legislature deemed safe. No injury, therefore, would be inflicted upon them, or upon the community, by the legislative restrictions of which we have spoken: while the interest of the public, (and even their own true interest), imperatively demands such limitations in the case of the former class.

* The great inconvenience attending the variety of notes, (or 'bills' as they are called in the United States), is another, though a comparatively trifling disadvantage. A purchaser will frequently be detained for some time in a 'store' in New York while the shopkeeper to whom he has tendered a 'bill' in payment, is examining a long list of the safe banks, to ascertain whether the tender should be accepted or rejected.

Such remedies are readily available in countries like England and the United States, in which systems of issue are already existing, and where, consequently, a more effectual and radical cure for the evil we are considering would interfere materially with private interests and even seriously derange commercial affairs for a time. In England, indeed, where the use and system of paper money, of all kinds, have attained a much higher state of excellence than in any other country, the true remedy for the risk of insolvency of issuers has been almost reached by the much-discussed Bank Charter Act of 1844. In the United States the establishment of a National Bank is occasionally mooted, which, if soundly instituted and judiciously managed in its Issue Department, would be of immense benefit to the internal commerce of the country. But the mismanagement of the old United States Bank, and the association in the minds of the community between it and the wide-spread ruin which its collapse in 1837, (owing to General Jackson's vetoing the Bill for the renewal of its Charter), aggravated and partly occasioned, render the speedy establishment of a similar institution improbable.

There can, we think, be no doubt that the power of issuing paper money, whether convertible or inconvertible, should be entrusted to a single body; and that either an actual department of Government, or one subject to constant supervision and control by the Legislature or the Executive. The issue of inconvertible paper cannot be carried on with advantage or safety in any other way; while convertibility can be absolutely insured in this manner alone. The solvency of the nation will then be pledged for the convertibility of the national paper: and, as far as the particular country is concerned, no higher security is attainable. Where the field is free for the establishment *ab initio* of a paper currency, as it was in this country, no better plan could be adopted, not only for obviating the evil which we are at present specially considering, but also for reducing to a minimum the other inevitable but mitigable disadvantages of a paper medium. In England, in this respect as in so many others, a compromise was adopted, and, under the circumstances, perhaps unavoidably. It was the intention of the original promoters of the present English system of issue to prohibit altogether the emission of bank-notes by any person or Company except the Bank of England. This was not carried out by the Act of 1844. The existing banks of issue were permitted to continue, but provision was made for the withdrawal of their

notes from circulation, and the substitution of Bank of England paper for them, by special agreement in each case; and it was enacted that no new banks of issue should be instituted. At the same time the chief issuing body—not a department of Government, it is true, but necessarily closely connected with it in other transactions—was placed, in its Issue Department, which was thus entirely separated from the banking business of the Corporation, under stringent limitations, which we shall have to discuss hereafter, and subjected to constant supervision by the public.

Suspension of cash payments is a degree of insolvency, and a contingency to which the use of paper money is liable, that it is a danger and an evil is indubitable. That it is equivalent to 'national bankruptcy,' or that it is even the 'beginning of the end,' or that it is so serious a step as to justify the howl of triumph with which its recent occurrence in the United States was greeted by the *Times*, and more respectable members of the Slavery press in London, cannot be conceded. The suspension of cash payments by the Bank of England in 1797 was no doubt an evil; though, as it appears to us, a necessary evil. But it was a very different thing from national bankruptcy, and its evil consequences might have been mitigated by a clearer comprehension of the whole subject of paper currency and by skilful management founded on such comprehension. In the case of England the suspension was unnecessarily prolonged, and the issue of paper which had ceased to be convertible was, through ignorance, excessive. Both these errors may be avoided by the United States, who have the example of the older country as a warning.

In 1795, in consequence principally of heavy demands upon England for gold, for loans to the Emperor of Germany, and for continental expenditure, the exchanges took a turn unfavorable to England. Constant alarms of invasion added to the drain upon the banks for gold, inspiring small farmers and retail dealers with a desire of converting all their savings into cash and hoarding it. Heavy runs upon the country banks, thus produced, caused the destruction of many of them, and the panic, thereby increased, induced still greater demands for specie on the Bank of England. In March, 1795, the reserve of coin and bullion in the coffers of that Corporation had amounted to £7,940,000. On Saturday, February 25th 1797, the reserve was only £1,272,000: and there was great reason to expect a heavy run on the following Monday. Under these critical

circumstances the Privy Council determined, in anticipation of parliamentary sanction, to suspend temporarily cash payments at the Bank of England, and the order to that effect was issued on Tuesday the 26th February, 1797.

By this measure the hitherto convertible promissory notes of the Bank of England were rendered inconvertible for an indefinite period and the issue of inconvertible paper without any control was entrusted to the Banks. Evil consequences certainly followed the step, though not immediately nor unavoidably: but there can, we think, be little doubt that the circumstances justified the intervention of Government to save the Bank of England from impending insolvency. The run was not the result of mismanagement, either by over-issue or otherwise. It was the result chiefly of panic fear of invasion. The alternative was a circulating medium composed entirely of the precious metals, attended by not only the ordinary disadvantages but additional ones arising from the scarcity of gold and the importunate demand for it for exportation. While the alarms of which we have spoken prevailed no convertible paper could for a moment remain in circulation, and it was therefore a question of paper temporarily inconvertible or no paper at all.

But the circumstances which appear to have justified the suspension of cash payments in the beginning of 1797 did not sanction the continuance of the restriction after those circumstances had ceased to exist. By this continuance, however, it is to be explained, the country was subjected to the intolerable evil of an uncontrolled issue of inconvertible paper. The fear of the recurrence of alarm and panic has been assigned as the reason for the Government in this respect. A more probable motive was the great convenience attending an unlimited supply of advances which the Bank was able to afford without any drain upon her bullion. The case is an illustration of the principle which should never be lost sight of by those who found or manage a system of paper currency, viz, that no Government can safely be trusted with the power of issuing inconvertible paper without control of law and educated public opinion. The temptation to over-issue, without regard to consequences which are seldom immediate, is too great to be resisted in times of even moderate pressure. Let us briefly trace the progress of over-issue consequent upon the unduly prolonged restriction upon cash payments before we consider over-issue as the great danger attendant on a currency consisting wholly or chiefly of incon-

vertible paper—a danger so serious as to render such a currency, however theoretically allowable, absolutely inadmissible in any second system.

Confidence in the Bank of England and moderation in the issue of the now inconvertible paper kept the latter up to par for more than three years after the issue of the order in council. The fact that the notes were freely issued and received in all Government monetary transactions produced, of course, a favorable influence on their reception by the public. A resolution to which the principal merchants, bankers and traders of the city came, to the effect that they were willing to accept Bank of England notes as readily as before the suspension, and that they would exert any influence they possessed to induce others to do the same, contributed powerfully to insure their uninterrupted circulation. But it was moderation in their issue which saved them from depreciation below their nominal value. As long as the amount of paper only equalled the amount of gold for which it was substituted, and which was necessary for carrying on the commercial business of the country, five pounds in paper was fully equivalent to five sovereigns. When ignorance and mismanagement pushed the issue beyond this limit, the paper became depreciated in proportion to the excess of its quantity over the commercial requirements of the community.

For example. The harvest of 1800, the fourth year after the suspension of cash payments was deficient. Large quantities of foreign corn were imported which had to be paid for in coin. Had this unavoidable drain taken place under ordinary circumstances when the currency of the country consisted of metal and convertible paper, the total amount of the currency must have been diminished by the whole quantity sent abroad to pay for the imported corn. The remainder would have been the amount available for effecting the objects of a circulating medium within the country. At this amount a well regulated inconvertible paper currency would have been kept, by restricting issue when the export of coin took place; so that the actual amount of currency circulating in the country should correspond exactly with what it would have been if no suspension had taken place. Had the directors of the Bank of England been obliged to pay their notes in gold on demand, they must have restricted their issue—or rather it would have restricted itself, because all the notes which, while remaining in circulation, raised the total amount of the currency above the standard of commercial requirements, would have been returned upon the Bank for

conversion, and re-issue would have only led to re-return. But freed from the necessity of converting their paper into coin, the directors did not restrict their issues as they should have done. On the contrary, they added to the amount of their paper already in circulation. A depreciation of 8 per cent in comparison with gold was the result: and the amount of discount was the measure of the degree in which the amount of the currency exceeded the level at which it ought to have been maintained.

However, shortly afterwards, the notes partially recovered their value; so that from 1803 to 1808 the discount was only £2-13-3 *per cent*. But in the two following years the issues were enormously increased, although no increase in the business of the country had taken place, to justify and demand an augmentation in the amount of the currency. Between 1802 and 1804, both inclusive, the amount of Bank of England paper in circulation had ranged between the maximum and minimum of 19½ millions sterling and 16½ millions. In 1809, it amounted to £18,927,833: and in the following year to £22,541,523. Nor do these figures express the full extent of the evil. The country banks had increased their issues in a still greater proportion. The discount on bank paper rose from £2-13-2, at which it had been in the beginning of 1809, to £13-9-6 in 1810. The attention of Parliament was directed to the subject. A Committee of the House of Commons was appointed to inquire, and after demonstrating in their Report that over-issue of inconvertible paper was the sole cause of its depreciation in comparison with coin and bullion, recommended that cash payments should be resumed by the Bank of England in two years. But the House of Commons, by a large majority, declined to act upon this recommendation: resolving that Bank of England paper was at that time considered by the public as fully equivalent to coin, although these notes were openly at a discount of more than 10 *per cent*.

The Bank of England, being thus freed from any apprehension of interference by the legislature, continued to issue her paper with all her might. The country banks were no less active. Discounts could be obtained by almost any one, with dangerous facility, and the wildest speculations were hazarded. To this excessive issue of country bank paper the extraordinary rise of rents and prices, which took place before the crash in 1814, is attributable. In the latter part of 1813 circumstances led to a considerable fall in the value of corn, this operated on the country banks through the agriculturalists. Unsound banks

—a numerous class—fell by their unsoundness. Solvent banks perished by want of confidence and consequent runs, occasioned by the fall of so many of their weaker brethren. In the three years 1814, 1815, 1816, two hundred and forty banks stopped payment, many thousand shareholders and depositors and holders of notes were ruined and wide-spread misery produced. But from this nettle danger was plucked the flower safety. The enormous destruction of paper, consequent upon the fall of so many issuing banks, reduced the amount of the currency to its normal level—the requirements of the commercial transactions of the country. Paper rose again to nearly the value of gold, viz: to 3 *per cent* discount; and the way was prepared for the resumption of cash payments with the least possible derangement of commercial equilibrium, or injury to the private interests of individuals. The Bill for this purpose was carried by the late Sir Robert Peel in 1819, and cash payments were resumed after a suspension of more than thirty years.

We cannot now enter into a discussion of the question whether this measure was injurious or beneficial. It ought to be decisive of the matter that an ill regulated, or an unregulated, paper currency, such as we have described, is a grievous evil: and therefore, whatever puts an end to it must be, *primò facie*, a benefit to the community: that Parliament had pledged itself to a resumption of cash payments within six months of the termination of the war; so that commercial arrangements were, or might have been, or ought to have been made with reference to the probability of that measure; that the difference of value of paper and gold at the time amounted to only 3, or at the utmost, 5 *per cent* which measures the total amount of loss to which any one could have been subjected, to be weighed against the advantage of the community in general: and finally, that Sir A. Alison is opposed to the measure; arguing from a universal rise of prices as a token of prosperity; and abundance of ‘money’—whether inconvertible paper or anything else—as a sure indication of national wealth; while Mr McCulloch and Mr Mill are on the other side.

We have thus seen that England, whose system of paper currency is undoubtedly the best in the world, affords us, though temporarily, an instructive example of the consequences of over-issue, which is one of the greatest dangers to which such a currency is liable. This was a case of convertible paper made temporarily inconvertible, on apparently sufficiently emergent grounds, and after an unduly prolonged period of suspension restored to its

normal convertibility. But other European countries afford us instances of unlimited issue of inconvertible paper, and consequent enormous exaggeration of nominal prices. From these we may learn, if we need the lesson, that an unlimited issue of inconvertible paper is an intolerable evil; that no executive can be trusted with the control of the issue of such a circulating medium; and that the dependence of general prices upon the amount of the currency, *ceteris paribus*, is so direct and evident that we have at once a clue to the proper management of an issue of inconvertible paper, if circumstances should at any time render its adoption expedient.

The resumption of cash payments, however, unaccompanied, as it inexplicably was, by any attempt to control the issue of paper by any one who thought it worth his while to become a banker, did not obviate over-issue. In 1823, a rise in the price of corn, which had been low in the three preceding years, owing to abundant harvests, combined with other causes, induced an epidemic of speculation. The country banks hastened to supply the consequent demand for money by enlarging their issues of paper. Over-trading and over-issue re-act upon each other. It is obvious that Banks cannot issue their paper at will, after such a fashion as Dean Swift's servant adopted when he 'passed' a light guinea by slipping it in among some coppers paid to a 'pikeman.' There must be a demand for accommodation—for the discounting of bills—before a bank can issue its paper. There will generally be an excessive demand for accommodation, owing toordinate speculation or other causes, before a bank can begin to over-issue. But when the process has actually begun, the eagerness of a bank to force its paper into circulation re-acts upon the demand for accommodation. Facility of obtaining the latter increases the desire for it in those who were already speculating, and incites to speculation those who would not under other circumstances have thought of it. Thus an epidemic of speculation created a demand for money at the time of which we write, a demand which the banks, in their morbid eagerness to force their paper into circulation met more than half way; and their eagerness to supply the demand increased its violence. The process went on, till, according to a probable estimate, the amount of country paper in circulation in 1825 was half as much again as it had been in 1823, the natural result followed. The currency became redundant, and foreign exchanges declined. When the demand for gold upon the Bank of England—the great reservoir of accommodation for the country banks—became serious, she became more chary of her assistance to the latter. A panic of suspicion

ensued. Runs set in with violence unprecedented even in the panic of 1792-3. In less than six weeks seventy banks had disappeared. The amount of paper rendered worthless by their fall was so great that the Bank of England found it necessary to issue between eight and ten millions sterling to supply the vacuum in the currency. It must be remembered that this sum does not represent the amount of over-issue, which must be measured approximately by the rate of exchange; but it enables us to form an idea of the enormous magnitude of the evil to which over-issue led. The greater portion of those eight millions, as well as of the excess of the total currency over the requirements of the country was lost by members of the community. This aroused the country to a sense of the danger to which its ill-regulated, or unregulated system of paper currency made it continually liable. Steps were taken to obviate this danger, which, though not perfect, tended somewhat to improve the system. The Act of 1708, which, in order to prevent the formation of joint-stock banks, limited the number of partners in a banking concern to six, was repealed. At the same time one pound notes were prohibited, and since 1829 have ceased to circulate in England.

When we consider that the two great objects to be attained were the prevention of over-issue of paper and its consequent depreciation by excess, and, secondly, security against the issue of any bank-notes by parties of doubtful solvency, we see at once how inefficient were the remedies applied by the legislature. One pound notes were certainly the form in which the paper of the small local banks chiefly circulated. Their suppression, therefore, not only restricted circulation but also in some measure protected from the disastrous consequences of bank failures the classes, such as laborers and small farmers, amongst whom one pound notes most freely passed, and who would suffer most by the insolvency of the issuers. So far the results of the measure were beneficial, but the panic of 1792-3, when no note for less than five pounds was in circulation showed the futility of the suppression of one pound notes as a preventive of panic or over-issue.

Again; the experience of our own day shows abundantly how utterly unfounded was the idea on which the legislature acted, in removing the restrictions upon the institution of joint-stock banks, namely, that these are more secure than private banking houses. Recent terrible examples have proved that less skill, prudence, caution, and fewer safe-guards against embezzlement and fraud are to be found in the management of joint-stock banks than are usually to be found in the conduct of private concerns. We

shall consider hereafter, when we come to discuss Sir R. Peel's Bank Charter Act of 1844, what are the true and only means of securing the two main objects stated above, and shall see how far they have been attained by means of that measure, and whether any compensating disadvantages have resulted from its enactment.

It remains for us to illustrate the evil effects of over-issue of inconvertible paper, by one or two historical examples. 'In Russia,' (we quote from a note of Mr. McCulloch's in his edition of the *Wealth of Nations*), 'forty millions of paper roubles, or assignats were issued in 1769, by the Government Bank established in the preceding year. There were some regulations with respect to the conversion of these assignats into *copper*: but Mr. Storch has shown that these were altogether illusory, and that, practically, the assignats were inconvertible. They were however made legal tender at the same rate as *silver* roubles: while in order to insure their circulation, it was ordered that a certain proportion of taxes due by each individual should be paid in them. In consequence of these regulations the assignats really formed a species of inconvertible paper money; and as their supply had not been originally excessive, and no further additions were made to it for about *eighteen* years, they continued, during the whole of that period, to circulate at about the same value as silver. In 1787, however, a fresh emission of sixty millions of additional assignats took place, which immediately depressed their value about eight per cent under silver. And owing to successive emissions, the mass of assignats in circulation in 1811 was increased to the enormous sum of 577 millions; when they fell to a discount of 400 per cent, as compared with silver! Since 1815 the mass of assignats has been much diminished and their value has uniformly increased with every diminution of their quantity.* Can any more conclusive proof be required, to show that the value of such paper currency as legal tender is always proportioned—other things being the same—to the quantity in circulation?'

France affords a still more striking illustration of the effects of over-issue of inconvertible paper. In John Law's time that country had a lesson on this subject, when wide-spread ruin resulted from panic and over-issue combined. There is good reason to believe that the great speculator himself knew the danger of the course which the Regent was pursuing, and would have stopped the out-gushing flood of paper if he had been able.

* A large issue of these notes has been made very recently.

But the apparent ease with which 'money' to any amount could be manufactured was too dazzling a temptation for the Regent, as it has often proved since for wiser men than he. But the Revolutionary Government, in 1791 and the following years, far surpassed their predecessor, the Regent, in the superabundance of their issues, and in the example of depreciation thereby afforded.

Even in 1791 the French assignats had fallen to one third of their nominal value. In September 1792, 2700 millions francs, (more than £130,000,000) had been already issued during three years of peace. Of this only 15 million francs remained in the national Treasury, and the convention ordered a fresh issue. No attention was paid to the rate of discount to which the assignats had fallen, so far as to restrict their issue; but an attempt was made, futile of course, to check the rise of nominal prices which proceeded *pari passu* with the increase of paper in circulation: and in 1793 it was proposed to fix a *maximum* price on all articles of sale.

In spite, however, of this proof of their consciousness of the extent to which depreciation had gone, the convention, on the 7th May 1793, ordered a new issue of assignats to the nominal value of 1200 millions of francs, (£18,000,000). This issue was in addition to 3100 millions (£124,000,000) already in circulation. In the same year, on the proclamation of war, 1000 millions more were struck off, and the total ultimately reached an amount equivalent to £350,000,000, nominally secured on the national domains—the confiscated lands of the aristocracy and the Church. They sank to one-tenth, and soon (in 1795) to one-twentieth of their nominal value. Pichegru, who commanded the Army of the North in that year, drew a nominal pay of 4000f. a month, which he found to be practically equivalent to 200f. The convention took strenuous measures to 'put down' depreciation, decreeing six years imprisonment in irons to any one refusing to receive the assignats at par. They then fell to *one-hundredth* of their nominal value, and soon after to *one-two hundred and fiftieth*. Twenty years in irons were decreed to creditors refusing payment of their debts in depreciated assignats, and debtors were not slow to avail themselves of such facilities for clearing off their liabilities. On May 16th, 1794, 8,778 millions of francs had been issued, (equivalent to £351,150,000), of which there remained in circulation more than 5000 millions—a sum more than equal to three times the combined circulations of England and France, after the currency of the latter had been restored to a healthy condition. But in the beginning of 1796,

the amount in circulation reached £2,000,000,000; and the depreciation was so great that one gold louis sold for 28,000 francs, and a dinner for five or six persons cost 60,000 francs in assignats!

It remains to mention one more disadvantage of paper currency as compared with metallic. The risk of loss by spurious imitations is somewhat greater. The 'ring,' (at least of most European gold and silver coins, which contain an alloy of copper), the weight, the appearance, and the degree of hardness of coins afford a ready test of genuineness, available to the educated and uneducated alike, and, though not infallible, is found to be generally sufficient for practical purposes. With bank-notes the case is different. In Europe, in spite of multiplied and most ingenious precautions against forgery spurious notes are continually manufactured with such skill as to be undistinguishable from genuine paper by any but those acquainted with the private marks known only to the issuers. The disadvantage of this is obvious: but as skill in counterfeiting coin has, perhaps, advanced to nearly as perfect a state as that of forging bank-notes, the inferiority of paper to coin with reference to injury from spurious imitation, does not rest merely upon the greater liability of the former to be imitated by successful fraud. The amount of loss to the unwary recipient of a forged note may be very much greater than that of the man who unwittingly accepts a bad sovereign. In England a man can only lose a pound at a time through the latter misfortune, while by a forged bank-note he must lose *five*; and the chances against the 'passing' of five spurious sovereigns to one person are very much more than five times those against passing a five-pound note. The most valuable current coin is the American double-eagle, worth about £4; but a bank-note may be worth thousands.

Again; a false coin must contain a considerable amount of the precious material of the true coin which it personates; while the material of a forged note is comparatively valueless. After a certain number of spurious sovereigns have been successfully uttered—sufficient to replace the cost of presses or other machinery for their manufacture,—each additional coin gives as profit only the difference between its intrinsic value and that of the genuine coin for which it passes—say, 25 *per cent*. But a forged five-pound note, under similar circumstances, pays nearly *cent. per cent*. The premium upon production therefore in the one case is much greater than in the other; the loss to the person defrauded being equal; while the legal penalty is not greater. Multiply this loss by the possible amount of the bank-note—the

value of the highest coin being fixed—and the disadvantage under which the paper labors becomes very striking.

This disadvantage, we remark, is to be set against the advantage of greater portability which paper possesses over metal. The larger the figure of the note, the greater is its superior portability over the metallic equivalent, but also the greater the risk arising from its use and the consequent disadvantage.

We hope in a future paper to consider the principles on which a well ordered paper currency should be managed—illustrating them from the example of the Bank of England—and to point out the application of these principles to the peculiar circumstances of India.

- ART. II.—1. *Journal of the Asiatic Society of Bengal.*
2. *Proceedings of the Royal Geographical Society of London.*
3. *Description of China, Chinese Tartary &c. &c. translated from the French of P. DU HALDE, printed by T. Gardner. Bartholomew Close, London: A.D. 1738.*
4. *Results of a Scientific Mission to India and High Asia. By Herman, Adolphe and Robert De Schlagintweit. Vol. 1, LEIPZIG: F. A. Brockhaus. London: Trubner & Co. 1861.*
5. *A Series of Papers on Mountain & other local attraction in India and its effect on the calculations of the Great Trigonometrical Survey. By JOHN H. PRATT M. A. Extracted from the Transactions of the Royal Society for 1854, 1855, 1858 & 1861. Calcutta: 1862.*
6. *Asie Centrale—Recherches sur les Chaînes de Montagnes, et la climatologie comparée. Par A. DE HUMBOLDT. Paris: Gide, Libraire Editeur, 1813.*

IN former numbers of this Periodical* we have given accounts of the Great Trigonometrical Survey of India, and traced its operations continuously from its commencement in 1800 by Captain Lambton—the Father of Indian Geodesy—to the year 1850, when the Blue Book, containing Colonel Waugh's able analysis of the proceedings of the Survey was published. We entered at length on the long contested question of the relative value of Astronomical Observations in comparison with Trigonometrical, for the basis of an operation of such magnitude as the Topographical delineation of the British Indian Empire. We would, however, again return to this subject, to shew that the

* No. VII. Sept. 1845. Art. 3. and No. XXXII. Dec. 1851. Art. 9.

arguments in favor of Trigonometrical operations are almost as valid in the present advanced stage of Astronomy, as they were of old in the infancy of the Trigonometrical Survey of this country.

There is much that is very tempting and charming in Astronomical observations. They give absolute values of the two important elements Latitude and Longitude, of the place at which they are taken, and it would seem at first sight to be far preferable to employ them to determine the positions which are to become the origins and termini of future Surveys, than to undertake the very tedious and laborious process of connecting these points by Triangulation. They have often an appearance of very great accuracy; numerous repetitions give results which for the most part coincide very closely, and consequently have very small Mathematical 'probable errors'. Under such circumstances, none but a hardened unbeliever would venture to suggest the possibility of the existence of a large actual error, due to some mysterious and unknown cause, which is beyond the ken of the Astronomer, and not subject to his control.

Most persons are agreed that very accurate and satisfactory determinations of latitude may be obtained with ordinary means. In our last notice of the Trigonometrical Survey, we expressed an opinion, which we are now anxious to qualify, that thirty or forty observations with a good sextant ought to determine the latitude certainly within 200 feet of the truth. Granting that the results would be within 200 feet of the value given by the most refined measurements, with the most powerful instruments, they may still be some way off from the truth, for there is a source of error which affects all such observations alike, independently of the instrument by which they may be taken; it ever exists to a greater or less extent, and cannot be eradicated, or even measured with absolute certainty. We mean the tendency of the plumb line to deviate from its normal direction, in consequence of local irregularities in the Earth's crust. The plummet is attracted by mountains, and repelled by oceans, the former by the excess of matter which they bring to bear on it, the latter by the deficiency which results when water takes the place of land. Even on level plains remote from hills and seas, deflection exists when the rocks and strata below are of unequal densities, on opposite sides of the plummet.

In the memorable experiment which was made at the mountain of Schiehallien, in Perthshire, for the purpose of measuring the amount of its attraction on the plumb line, the meridional distance of two stations on opposite sides of the mountain was

found to be 1361.4 feet, or $42''\cdot 9$, as computed by a process of triangulation, while by Astronomical observations it was apparently $51''\cdot 6$ or $5551\cdot 7$ feet. The difference, amounting to more than one-fourth of the entire distance, is wholly attributable to the Astronomical observations, the plumb line at the station on the south of the hill being attracted northwards, while at the opposite station it was attracted southwards, thus causing the Astronomical arc to be larger than the Terrestrial by the sum of the deflections. Half this quantity is the mean effect of the mountain in disturbing the plumb line at either station, but whether the attraction is greater at one than the other, and by what amount, are questions which are undeterminable with absolute accuracy, and probably will ever remain to baffle and perplex the Geodesist.

A contour survey can give the magnitude of the superficial irregularities, and assign their relative excess or defect in the neighbourhood of each plumb line, but it is also necessary, for a complete solution of the amount of attraction, to know the density, not only of the superficial masses, but also of the subjacent strata, to a depth far beyond the reach of the Geologist.

Thus even the determination of latitude is not so easy a problem as appears at first sight;—Archdeacon Pratt tells us in his able investigations of the effects of attraction on the operations of the Trigonometrical Survey, that the whole of India may be as much as half a mile north of the position assigned it on the maps of the Survey. At Kalianpür the origin of latitudes, where it was necessary to make Astronomical observations, and refer the operations to the faithless zero of an erratic plumb line, the Archdeacon has shown that the probable error caused by the Himalayas is one fourth of a mile, and by the Ocean about one sixth, which may be increased by variations of density in the strata below. He demonstrates that it affects all the triangulation and the maps in an equal degree, and consequently the whole of the relative distances are correct, which would be very far from being the case if they had been based on Astronomical observations instead of Trigonometrical.

If we now turn to the subject of longitudes, we find a far wider margin allowed for possible inaccuracies. But even here the difficulties of the operations are in general greatly underrated. There is scarcely a Ship-Captain but believes that with a few sextant observations of lunar distances he can find his longitude whenever he pleases within five miles, and is inclined to ascribe to his lunar observations the successful guiding of his ship to

port, which is due in far greater measure to his older allies, the lead and look-out. Like the man who maintained that nothing was easier than to predict eclipses, for one had but to take them out of the almanac, he will say 'what is the difficulty? one has but ' to compare his lunar observations, after they have undergone ' certain well known corrections, with the data which are given ' ready to hand in the Nautical Almanac, to obtain the requisite ' longitude'. Granting that the observations are perfectly accurate, which is highly improbable, the errors of the Almanac have still to be taken into consideration, and that *they* are not small, may be more clearly understood from the following example of their practical operation, than from any further explanation.

The longitudes observed at Lake Memphramagog in 1845 by the Royal Engineers sent out to determine the boundary between the United States of America, and British Canada were as follows, in terms of the data given in the Nautical Almanac for that year.

August	14th	4 h.	48 m.	26.86
"	15th	4 "	48 "	38.07
"	16th	4 "	18 "	21.58
"	17th	4 "	18 "	26.97
"	20th	4 "	48 "	7.53

Mean 4. 18. 21.80

After correction for the presumed errors of Nautical Almanac as determined by observations at Greenwich, taken on the dates in question, these values become.

August	14th	1 h.	48 m.	38.17
"	15th	"	"	53.07
"	16th	"	"	35.86
"	17th	"	"	48.25
"	20th	"	"	23.51

Mean 4 48 39.77

Showing a difference of 15 seconds in time which is nearly equivalent to 4 miles, on the parallel of Madras, and arises from causes entirely beyond the control of the observer.

There is even said to be a doubt of 1" in the difference of longitude between the splendid and long established Observatories of Paris and Greenwich, for the re-determination of which special Trigonometrical operations are now on foot.

'There is nothing new under the sun'. *More than a century and half ago, a few French Jesuits who had settled in China with

the laudable object of converting the inhabitants of that vast empire to Christianity, managed to impress the Emperor Kanghi, with the accuracy and advantages of the European methods of mapping, and were consequently engaged by him to construct maps of all the provinces of his empire. Animated by the hopes of securing the protection of the Emperor, 'which was necessary to favor the progress of Christianity,' the Jesuit fathers set to work most rigorously and conscientiously, adopting, after due consideration, the method of triangles in preference to any other.

Our readers will not require us to apologize for placing before them the following brief description of this grand undertaking, which Père Régis, writing in the commencement of the 18th century, rightly called 'the greatest geographical work that ever was performed according to the rules of art'.

Our extracts are taken from the account sent by the Father to France in the name of the Missionaries who were associated with him, as given in the preface to Père Du Halde's work on China, in the English translation which is quoted at the head of this article.

'I can assure you', says he, 'that we have omitted nothing requisite for rendering our work perfect. We have ourselves visited all the places, even those of least consideration, throughout the Provinces; examined the maps and histories of each city preserved in their tribunals; made enquiries of the Mandarins and their Officers, as well as the principal inhabitants, whose territories we passed through; in short, by measuring as we advanced, we still had measures ready to serve the Triangles, formed by such points as were to be fixed.

'For after mature deliberation we thought it best to use the method of triangles, all others appearing to us not only too tedious, considering the vast extent of the countries, of which the Emperor wanted the map, but scarcely practicable on account of the towns being so near one another, since it is certain that the least error, occasioned by the pendulum going wrong, or the immersion of one of Jupiter's Satellites not being accurately observed, would cause a considerable error in the longitude: for instance, the mistake of a minute in time would produce an error of 15 minutes in longitude, which are equivalent to four or five leagues according to the difference of the parallels: so that it might happen, that according to the observation, two towns would be made contiguous, at the same time that there would be really some distance, though not much, between them.

'This inconvenience is not to be feared in the method of triangles: for how is it possible to err four leagues in the distance between two places no farther asunder, when by a measure that always follows us, and semi-circles accurately divided, we fix divers points between the two terms, which joined together make as it were a chain of triangles? On the other hand, nothing is so difficult as to avoid a small error in time; the best pendulums are put out of order by travelling, and to prevent erring, even in a single minute, the observations must be repeated several days; a task which would be extremely fatiguing.

'The observations of the Satellites require not only more time and accuracy, but also Telescopes of the same size, and, if I may so speak, the same eyes in the observer, and his correspondent; for, if the one sees them ever so little sooner than the other some error will inevitably happen, which must not be suffered in determining small distances. And if observations of a Satellite, made in the same place, by the same person, differ so in time as to cause a small variation in the longitudes, and oblige us to take a middle difference among them (supposing the difference to become insensible by the greatness of the distance) the results will be still more uncertain when there are several observers, who have neither the same instruments nor address; so that the difference arising between the observations, renders the position of places lying near one another doubtful, nor can it be fixed but by the rules of Geometry, which shews the necessity of having recourse to the method of triangles at last.

'This method when continued without interruption, has one farther advantage, as it gives not only the longitude, but also the latitude of the towns to be inserted; which being afterwards examined by the Meridian altitudes of the sun or Polar stars, serves to correct the preceding operations. This course we took as often as we were able, and commonly found no sensible difference between the observation of the latitude, and the determination by triangles. If sometimes we discovered variations, we did not think ourselves thereby obliged to lay aside this method, since we find as many in the observations of the Polar altitudes, made by the best Astronomer in the same place. Although the theory, whereon such observations are grounded, is certain, nevertheless the practice depends on so many little circumstances, which must all be attended to in order to obtain perfect accuracy, that the operations cannot

'be always exact, but must vary something more or less. However, these little defects always appear, and may be often corrected in large works, by connecting the points fixed by Trigonometry with those whose position is under examination.

'Another method which we judged ought to be employed for great precision was to return to the same point, already determined, by different ways, from a considerable distance, working according to rules. For if by the last essay you find the same situation, the exactness of the preceding operations will be proved in some measure to a demonstration. When in measuring we could not return to the same point, our method was, as we passed near the great towns already marked down, or other fit places, to look out for the remarkable towns or mountains that commanded them; and from time to time we measured to see if the distance, resulting from the operations (when corrected) agreed with the actual measures.

'All these precautions and many more, too tedious to enumerate, appeared to us necessary when executing a work in a manner worthy the trust reposed in us by a wise Prince, who judged it of the greatest importance to his state. Moreover, the hopes of meriting his protection, which was necessary to favor the progress of Christianity in his empire, supported us amidst those dangers and crosses that are unavoidable by those who have to do with such a variety of tempers, and are engaged in so laborious an undertaking: nay, we were willing for our own satisfaction, to have repaired again both to the Eastern and Western Frontiers, as well as to some places within the kingdom, situated at convenient distances, there to examine the longitudes by repeated observations of eclipses; but as the work was finished, and the Emperor appeared satisfied with it, we did not think it proper to engage him in a new, and not altogether necessary affair. We therefore contented ourselves with observations of the moon and satellites of Jupiter made before our time in several cities by members of our society, though we rejected a few because they did not agree with our measures on account of some small error as to time in the observation, which but too often happens to the most experienced. Not but that we ourselves observed some eclipses of the moon, and found no other difference in our observations than is usual in such cases; where we had any doubt we chose the mean difference.

'Thus having first made use of the method of triangles for determining the distances between the several cities, and afterwards compared it with that of eclipses observed in places,

‘remote from Peking, we flatter ourselves that we have followed the surest course; and even the only one practicable in prosecuting the greatest Geographical work that ever was performed according to the rules of art.’

The Surveys of the Fathers extended from the Eastern frontier of the Chinese Empire as far west as the meridian of Pegu, embracing the Provinces of Yunnan, Szuchuan, and the rest of China proper, and the portion of Eastern Tartary lying between the Chinese frontier and the Saghalian Ula or River Amoor. A map of Korea was met with in the palace of the king of that country, which on examination was found to be so accurate that it was incorporated by the Fathers into their own survey without revision,—a singular circumstance, suggestive of a higher civilization in Korea than at Peking, for we are led to believe that it was the want of a map of the country around Peking which prompted the Jesuits to construct one in order to excite the interest of the Emperor, and obtain his favor and support by inducing him to employ them in making a survey of the whole of his dominions. It is to these operations, executed nearly a century and a half ago, that we owe our present admirable maps of China, which are a source of surprise to all who are ignorant of their origin, and only know how jealously Europeans have been excluded from the interior of the Empire. There, or at least in China proper, there is no *terra incognita* to reward future explorers. The recent enterprising expedition of Colonel Sarel and Captain Blakiston up the River Yang-tse-Kiang, which has afforded so much valuable information on numerous subjects, has not, we believe, made any additions to our knowledge of Chinese geography; the noble river up which they ascended, and the chief cities and towns on its banks, being mapped out in their chart pretty much as it was mapped by the Jesuits 150 years ago. We trust that at no very distant date the officers of the Trigonometrical Survey of India will be able to connect their triangles with those of the Jesuit Fathers.

When we last reviewed the operations of the Survey, we stated that on the completion of the great meridional series of triangles which extends from Cape Comorin to the Dohra Dhoon, and is now well known in the scientific world as the Great Arc of India, being the longest and probably the most accurate of the several arcs which have been measured in various parts of the world to determine the figure of the earth, the Survey establishments were deputed to execute series of triangles on successive meridians eastwards from the great Arc, at distances of about one degree

apart, as far as the meridian of Calcutta. These triangulations emanate from a longitudinal* series which had been carried eastwards from the Seronj base line in Central India to Calcutta, in the years 1826—32, before Colonel Everest revised and extended the great Arc. This series was executed with rapidity through a wild and difficult tract of country, at an insignificant cost, barely one fourth the ordinary expense of such operations. Unfortunately the only instruments then available were of a secondary order, the system of operations was deficient in rigor and accuracy, and very inferior to what was subsequently introduced by Colonel Everest, which is much to be regretted, because all the meridional series between the great Arc and Calcutta are necessarily based on it, and their final values cannot be determined until the Calcutta longitudinal series has been revised. The late Hon'ble Court of Directors authorized the revision to be undertaken as soon as the triangulation had been well advanced over the rest of India.

The last of the meridional series between Calcutta and the great Arc, to the north of the longitudinal series, was completed in 1852; and now the greater portion of the Trigonometrical operations to the west of the great Arc, the axis of Indian Geography, are finished. A western longitudinal series extends from Seronj to Karachi in continuation of the Calcutta longitudinal arc; a north west Himalayan series from Dehra Dhoon to Attok; and the Indus series from Attok to Karachi, following the course of the frontier of our Indian empire towards Persia and Afghanistan. These, with the great Arc, form a vast quadrilateral figure at whose four corners base lines have been measured with the set of compensating bars and microscopes which was constructed on the model of the apparatus invented by Colonel Colby for the measurement of the base lines of the Ordnance Survey of Great Britain, and brought out from England by Colonel Everest in 1830.

The bases at Dehra Dhoon and Seronj were measured by Colonel Everest in the course of the great Arc; those at Attok and Karachi in the seasons 1853-54 and 54-55 by Colonel Waugh.

The western longitudinal series was commenced at the close of 1848 by Captain Renny Tailyour B. E., assisted by Captain Strange of the Madras Cavalry. After having successfully started the work, Captain Tailyour returned to his duties at the headquarters of the Surveyor General, leaving Captain Strange to go

* So called because it is carried in an east and west direction, and measures the distance between successive meridians of longitude.

on with the triangulation. Great difficulties were met with in the course of these operations; first, the Arabulli range, formidable for its ruggedness rather than its height, had to be crossed, and afterwards the extensive salt desert which intervenes between those mountains and the Indus, and forms the northern flank of the Runn of Cutch.

Captain Strange describes the Arabulli mountains as ‘an extensive tract, having a general north and south direction composed of ridges and peaks which though attaining no elevation greater perhaps than 5,500 feet above the sea, yet exhibit in the details that compose them all the boldest features of the most stupendous mountain scenery. The traveller at the end of his day’s journey attains perhaps an elevation but little greater than that from whence he departed; but he has in its course more than once ascended with great labor high acclivities only to plunge again and again through dense forests and across rugged beds of mountain torrents into precipitous valleys of equal depth. In many parts of this very peculiar tract where but slight communication and no traffic exists, it may be said that there are no roads whatever. Nothing meets the eye but vast blocks of granite towering aloft, and jungles almost impenetrable obstruct every step. The habitations of men are seldom met with, and man himself as here found roams a lawless savage.

‘In addition to the physical difficulties presented by the Arabulli mountains, the impediments were enhanced by the unwillingness of the inhabitants to render assistance. Great interruptions would have been experienced from this cause but for the services of a native officer of the Meywar Bheel Corps, Subadar Chutter Tewaree, who was obligingly deputed by his commanding officer Captain Brooke to accompany Captain Strange. Having been long and extensively employed in recruiting from the Bheel population, and in promoting order and civilization among them, he had been recognized as a benefactor to whom they readily on all occasions accorded obedience. His influence was extraordinary, and a word from him always sufficed to collect strong gangs of carriers, when no persuasion from any one else was listened to.’

The tract crossed by the triangulation between the Arabulli mountains and the Indus comprises three distinct kinds of ground:—

First, a succession of gentle sandy undulations dotted with thick stunted jungle, appertaining chiefly to the Jodhpore and

Palampur states;—thinly populated and but little cultivated, with a scanty supply of water, which is only to be found in wells of great depth, and is usually brackish, this is altogether a miserable country, and is described by Capt. Strange as ‘interesting only from its physical deficiencies.’

Next comes the Desert, commonly known among the natives as the Thur; it is throughout composed of sand hills whose general form is long straight ridges, which seldom unite but stand at close and regular intervals parallel to each other; like the ripple on the sea shore. Some of them are perhaps a mile long and vary from 50 to 300 feet in height, their sides being deeply channelled by rain and their general appearance from a distance differing little from that of ordinary low hills. There is more jungle than might be expected, but it is low and almost leafless. The whole desert in the cold season is clothed with grass, and is then much resorted to for pasturage by herdsmen. The population is scanty, the villages small and far apart, consisting merely of a few conical huts, scarcely a man’s height, which are rudely constructed of twigs and grass.

Where the desert ends, the plains of Sind begin, and the transition is surprisingly sudden. In a space of one hundred yards, the traveller leaves sands and dunes, and the stunted vegetation of the desert, and enters a perfectly flat country with a firm, black loamy soil, Inhabitants, customs, language, and vegetation are exchanged with the same strange, startling abruptness. The soil is hard and grassless. Jungle is plentiful and thick, the country populous and well cultivated, and intersected in every direction by irrigation canals. Such a country is, however, very much more difficult for Trigonometrical operations than the preceding inhospitable tracts of sand hills and undulations. In them the chief difficulty was to provide food and water for the officers and men employed. But depots for grain and other supplies were established at various places, and replenished periodically from Deesa and Hydrabad; and the water of the desert, though brackish and most unpleasant, was drinkable without any deleterious effects. The sand hills afforded excellent stations for the Trigonometrical operations, being just sufficiently high to overtop the lower murky strata of the atmosphere, and not too high to make their ascent a matter of difficulty. They only needed the construction of a small pillar and platform of masonry to mark the site of the station. Scarcely a single ray had to be cleared to open the view between the Stations at its extremities. And thus the operations proceeded without check or hindrance, and with greater

rapidity than had ever previously been attained in any part of the Trigonometrical Survey.

But when the convenient sand hills were passed, and the plains of Sind were reached, it became necessary to construct towers for stations of observation. Most of our readers are probably aware that the limited distance at which ordinary objects are visible on a plain is due to the curvature of the earth. If we walk over a perfectly level plain away from an object twenty four feet high, we find that at the distance of six miles, only as much of it will be visible as equals the height of the observer's eye above the ground. The height which it is necessary to give a tower, to overtop the earth's curvature for any given distance, is determined by the well known rule, that it must equal, in feet, two thirds of the square of the distance, in miles. The towers of the Trigonometrical Survey are usually made from 24 to 30 feet in height; thus each has a command of about six miles, and they are consequently mutually visible at double that distance, when there is nothing but the curvature to be surmounted. Other obstacles must be removed, or overtopped by increasing the height of the towers.

These structures consist of a central pillar of brick and mortar tapering upwards to a diameter of three to four feet at top, on which the Theodolite employed for the principal triangulation is rested. A mass of masonry of unburnt bricks cemented with clay is erected, so as to afford a platform of about twelve by sixteen feet on a level with the top of the pillar, to give room for the Observatory tent, and the heliotroppers who are required to flash to and arouse the signallers at the adjacent stations. The summit is reached by a substantial flight of steps. The central pillar is separated from the surrounding platform by an annulus, in order that the instrument may be unaffected by the movements of the observer and his attendants. The pillar is perforated vertically to allow a plummet suspended from its summit to be adjusted over the markstone, which is fixed in its base at the ground level, lest the tower should become accidentally deflected.

These structures cost on an average only Rs. 250 each, or 10 Rupees for every foot in height, but the time occupied in the selection of suitable sites, and afterwards in the erection of the towers, and in carefully clearing the rays between them of all obstacles, causes much delay, and greatly impedes the operations. Progress is further retarded by the bad signals which are presented on all sides to the observer; being so close to the ground

their rays are most irregularly refracted in all directions, lateral as well as vertical, during their passage through the thick dust and vapours in the lower strata of the atmosphere. Under such circumstances the measurement of the angles proceeds very slowly, and numerous repetitions are entailed. Captain Strange, whose progress over the Arabulli mountains and across the desert had been a series of successes, encountered his first check on the plains of Sind, being delayed at one station no less than twenty-five days, in taking a set of observations similar to what had rarely occupied him as many hours on the sand hills of the desert.

West of the Indus, the triangulation again reached a hilly tract of country, and then advanced with rapidity to Karachi, where, in the month of April 1853, it was brought to a termination on Colonel Waugh's base line. The field operations thus occupied five seasons in all; they comprise 173 principal triangles arranged in quadrilateral or polygonal figures in order that each link of the chain of triangles may be self-verificatory. The average triangular error was $0''.79$ or about eight-tenths of a second. Numerous secondary triangles were measured, and the positions of all the principal places in the vicinity of the operations were fixed.

The extent of the measured arc of longitude is $10^{\circ} 37'$, equivalent to 668 miles in length, and the area covered by the principal and the secondary triangles is 20,323 square miles, the average cost per square mile being Rs. 6-13. The operations involved 117 principal stations, of which only twenty-two were towers, or the expense of the operations, and the time they would have occupied, must necessarily have been considerably greater.

At Karachi, Lieut. Tennant took a series of observations for latitude with one of the large Astronomical circles brought out from England by Col. Everest for the great Arc, and a set of azimuthal observations on circumpolar stars with the great Theodolite.

The Astronomical latitude of Karachi

Observatory on Bath Island thus deduced is $21^{\circ} 49' 49''.27$

The computed value brought up from

Kalianpoor Observatory near Seronj is $21^{\circ} 49' 50''.15$

Difference	$0''.88$
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The Astronomical azimuth of referring mark is $179^{\circ} 59' 57''.43$

That brought up from Kalianpoor is $179^{\circ} 59'57''.74$

Difference 0.31

The small differences between the Astronomical and computed values indicate that, whatever may be the deviation of the plumb line at Kalianpoor in Central India, it is deflected by nearly the same amount at Karachi on the Sea coast.

The N. W. Himalaya series was commenced at a side of the great Arc near Dehra Dhoon in the season 1847-48 by Major Du Vernet of the Madras Army. The following year an insurrection broke out in the Saon or Jaswan Dhoon, which drove the whole party from the field. Major Du Vernet with a large theodolite narrowly escaped capture, and one of the sub-assistants was made a prisoner by the rebels, who plundered his property and destroyed his instruments; he was marched off bound to the Rajah of Amb, but after eight days was released by a detachment sent for his rescue. The rebellion was soon extinguished and operations were resumed. Two years afterwards they were again stopped because the Maharajah of Kashmir took umbrage at the occupation of the Mountain of Trikote as a survey station on the plea of its being sacred.

Thus the principal triangulation progressed somewhat slowly, but a large amount of secondary triangulation was executed to lay down the positions of the hill peaks and the chief towns of the Jullundur and Barea Doab and the Cis-Sutlej states.

Simultaneously a topographical survey of the Himalayas was commenced in connexion with the triangulation, being the first time that the members of this survey were ever employed in filling in the details of the ground they had covered with their triangles. These interesting operations were originated under the superintendence of Major Du Vernet, who had been long employed in the topography of Hyderabad and other parts of the Madras Presidency. In the six years between 1848 and 1854, a map of the belt of hills between the Ganges and the Beas River, and the parallels 31 and 33 of latitude, was completed on the scale of four miles to one inch. It has been recently published in degree sheets, lithographed in colors in the office of the Surveyor General, Calcutta, and is now available to the public.

While Major Du Vernet was employed in topography, the triangulation of the N. W. Himalaya series was extended to Attok by Mr. Geo. Logan, who had recently completed the North East longitudinal series, through the Terai at the base of the

eastern Himalayas, under circumstances of very great difficulty, owing to the unhealthy nature of the tract of country passed through. Mr. Logan's principal triangulation reached Attok in 1853, supplying the requisite elements for the Topographical Surveys of the Rawul Pindi and Jhelum districts, and the northern Trans-Indus frontier, which were commenced in connexion with the Trigonometrical Survey, shortly after the annexation of the Punjab.

The N. W. Himalaya series consists of seventy seven principal triangles arranged in quadrilaterals and polygons, extending over a direct distance of 116 miles. The triangulation, principal and secondary, embraces an area of 33,000 square miles, including snow peaks, and was executed at a cost of Rs. 3-5 per square mile. The stations being all on hills or high mounds, no towers had to be constructed, and the cost of the work per square mile was much diminished by the large areas included in the triangles to the snow peaks. The area topographically surveyed was 33,700 square miles, at a cost of Rs 3-10 per square mile.

The Indus series extends from Attok to Karachi, and is 706 miles in length, the longest of any series of this Survey from base line to base line. Its extremities rest on the hills of Lower Sind and of the Rawul Pindi and Bannoo districts. But the Soolimani Range to which the triangulation runs parallel, was inaccessible for political reasons. Even the Takhti Soolman, the fabled throne of the 'weary King Ecclesiast', whose summits survey a vast extent of country hitherto untrodden by Europeans, the surveyors were reluctantly obliged to turn away from, and leave the frontier without attempting to visit. The Trigonometrical stations had to be restricted for a distance of about 170 miles to the flat and monotonous plains bordering the river Indus, which are rarely relieved by an undulation, or a mound suitable for the Triangulation.

It thus became necessary to construct towers at no less than 113 out of the 118 principal stations, and to clear 230 sides of triangles, whose united length amount to upwards of 2400 miles. The observations were almost entirely taken with the great Theodolite constructed by Messrs. Troughton and Simms for Colonel Everest. Each angle was measured on five zeros 'face right,' and the same number 'face left', three repetitions being taken on each zero; the instrument having five horizontal microscopes, the value of each angle was thus obtained from fifty measures on equidistant parts of the limb, $7^{\circ} 12'$ apart. There are in all 205 triangles arranged in self-verificatory quadrilaterals

and polygons;—their average triangular error is $0''\cdot47$. The area embraced by the principal and secondary operations is about 35,000 square miles, and the cost Rupees 9-4-0 per square mile.

In connection with the Indus series, a set of levelling operations with the spirit level was instituted with a view to determine the heights of the base lines of the Trigonometrical Survey with accuracy. Values of height had already been approximately afforded by the vertical observations between the principal stations of the triangulation. But such a method of levelling, though susceptible of a high degree of accuracy in a hilly or mountainous region, is beset with many difficulties in a flat country. For it is evident that an object to be correctly observed must first be truly seen. But when both object and observer are low down or only slightly raised, the rays of light they interchange graze the surface of the ground and traverse a medium which is subject to many variations, being sometimes dense and heavy with moisture, at other times rarified by the heat radiated

all-day from the surface of the ground. Thus the apparent position of the object varies within wide limits, according as the surface is dry or moist, barren or cultivated, baked by the sun or cooled by night dews; the rays of light being generally reflected more or less upwards, because the denser strata of the atmosphere are usually lowermost, though for a few hours before and after noon, if there are no clouds, the heated ground rarifies the strata of air in its immediate proximity, the denser strata then float some feet above, and rays of light passing below them are necessarily bent downwards and have their paths concave to the ground; the refraction is then called negative.

The following extract from a set of vertical observations taken in the Sind Saugor Doab with one of the great instruments of the Trigonometrical Survey, will serve to show how distant objects, seen over a plain, rise and fall to an extent that is probably little imagined. At the tower of Nar thirty feet high (lat $32^{\circ} 27'$; longitude $73^{\circ} 19'$;) the observations to the station of Goonia, distant 10.53 miles were as follows:—

Date	Hour	Vertical Angles
		“ ” “
22nd November 1855	2-35 (P. M.)	Depression 0 5 15.6
	2-48	“ ” 0 5 34.5
	3-5	“ ” 0 5 32.1
	3-37	“ ” 0 5 25.2
	4-30	“ ” 0 4 52.6
	10-50	“ Elevation 0 2 24.0

Here the signal rose $20''$, equivalent to 5·4 feet between 2h. 35m. and 3h. 37m; $33''$, or 8·9 feet in the following interval of 53 minutes, and, $7'17''$ or 117·8 feet in the next $6\frac{1}{2}$ hours; the total observed change of altitude being equivalent to 132 feet, during little more than eight consecutive hours!

The law is invariably the same; objects are seen at a minimum elevation between 1 and 3 o'clock p. m.; they then rise, at first gradually, afterwards very rapidly as the sun sinks and the dew begins to fall, attaining a maximum elevation when the air is most saturated with moisture, which is usually before day-break. As the sun rises the phenomena are repeated in the reverse order, and the object sinks, rapidly at first, but more slowly as the time of minimum refraction approaches. The limits between which the oscillation takes place will of course vary with the amount of moisture in the atmosphere, the nature of the soil, whether favorable or not to the deposition of dew, the heat of the sun's rays, and the aspect of the sky, whether clear or cloudy.

A few feet of difference in the height of a station of observation on the plains have a great effect on these phenomena. The nearer the rays of light are to the ground the greater and more irregular is the range through which they are refracted. Grazing rays are therefore always objectionable. But it is often impossible to avoid them without a more minute reconnaissance of the ground to be triangulated than is for other reasons allowable. Usually the survey stations in the plains are from eleven to twelve miles apart, at which distance, when raised twenty-four feet above the ground level, they become just high enough to overtop the curvature of the earth, to which the line joining their summits will be a tangent. The instrument and signal stand five feet high on the towers, and thus their mutual rays of light pass on an average five feet over the ground midway, sometimes well above, at other times grazing so closely as to be hable to the extremes of positive and negative refraction. The following figures show how the refraction varies with the height of the rays. At Futti station (latitude $31^{\circ}52'$; longitude $73^{\circ}32'$) consecutive observations were taken to the signal on the Moogoo tower, and to an auxiliary signal erected perpendicularly over the other at a distance of 16·53 feet. The towers being 10·74 miles apart, the two signals should have subtended an angle of $60''\cdot1$; but their apparent subtenses were as follows:—

7th February 1856. at 2h.	33 m.	P.M.	73·9
	2	43	„ 69·8
	4	16	„ 58·1

7th February 1856. at 1h.	33m.	P.M.	48'·9
	1	13	41'·7
		„	

showing that when the day was hottest the negative refraction in the lower ray combined with the positive in the upper to exaggerate the apparent distance of the signals, while towards sunset the excess of positive refraction in the lower ray over that in the upper produced the opposite effect. On another occasion two signals similarly adjusted, and having a true subtense of $19''\cdot5$, appeared to subtend at sunset on an evening after long continued dry hazy weather, an angle of $16'\cdot5$, and at sunset of the next day after a fall of rain $35'\cdot6$.

Wherever the heat, radiated from the surface of the ground, is capable of rarifying the air immediately incumbent on it, there must necessarily be a stratum of the atmosphere floating at some height above, through which rays of light will pass in straight lines, while on either side they will be bent upwards or downwards.

Thus for a short interval daily, near the time of maximum heat, a distant signal, whose rays graze the ground, will appear in its true position, unrefracted as a zenith star. This is the time of minimum refraction. If the exact moment of its occurrence could be predicted, one of the Geodesist's greatest difficulties would cease, and Astronomers might envy the freedom of his observations from refraction. But the time is rendered variable and uncertain by causes innumerable. A cloud before the sun will cause an object dimly visible in the horizon to start up, sharply and well defined, over all intermediate objects, only to sink down again and perhaps disappear altogether, when 'the wind passeth and cleanseth' the cloud, and the 'bright light' behind again exerts its influence. At this time moreover the air is not in the state of calm repose which comes on towards sunset, but is boiling and seething under the sun's rays, thus giving distant objects an appearance of dancing wildly up and down, and often of gyrating in circles. A signal formed by reflecting the light of the sun from a mirror through a disk of only one inch aperture, which at the distance of ten miles appears no larger than a star when the atmosphere is calm, may be seen magnified nearly a thousand times in the heat of the day, the rays being repeatedly reflected and refracted through the dancing vapours, until they form an apparent column of fire completely concealing the tower on which they are exhibited and often rising to double its height!

Enough has been stated to show the difficulties which beset

vertical triangulation over the plains of India and the sources of inaccuracy to which it is liable. Great as they are, it is now known that they can be practically overcome by the system, first introduced by Colonel Waugh, of taking vertical angles between 1 and 3 p. m. the hours which limit the period of minimum refraction. But until the Trigonometrical levels had been rigorously tested by a series of spirit levels, they were a source of much anxiety and uncertainty, because, if erroneous, the lengths of the base lines and of all operations emanating therefrom would be affected. The heights of the Ordnance Survey of Great Britain are all based on spirit levels, though that survey has peculiar facilities for checking its levels by reference to the sea, from which no part of England is more than ninety miles distant. In this country, on the contrary, the triangulation extends over a distance of upwards of 2000 miles from sea to sea, without external check of any kind.

Thus the measurement of lines of independent verificatory Spirit Levels became a necessity for the Indian survey. They were commenced on the Indus series, and in two field seasons were carried up to Attok, from the mean sea level of Karachi, which was determined in the Manora Harbour, by a set of tidal observations extending over two semilunations. Numerous precautions were adopted to guard against cumulative and accidental errors on so long a line of operations. The instruments were large and of superior construction, and fitted with delicate levels furnished with finely divided scales on which the deflection of the instrument from horizontality was measured, and a correction applied, as with Astronomical instruments, in preference to the usual method of attempting to correct by hand. The staves were invariably set up at equal distances from the instruments. They were divided on both sides, one painted white with black divisions numbered from 0 to 10 feet, the other black with white divisions from 5.55 to 15.55, in order to check accidental errors of reading; for the successive readings on the two faces should differ by the constant quantity 5.55, so that it is impossible to make the same mistake in both readings, and any error is immediately shown up by the difference in the results obtained from the two sets of faces. As an additional check two observers were invariably employed on the same line, each with his own instrument and staves, one following the other at a convenient distance, station by station.

These operations have now connected the base lines at Attok, Dehra Dhoon, and Seronj with the sea, and have satisfactorily

established the fact that heights deduced from Trigonometrical verticals rigorously observed with regard to the time of minimum refraction, are not liable either to large or cumulative error.

Thus from the Sea at Karachi to Attok, 706 miles, the Trigonometrical height is + 1011·36 feet

The levelled height is + 1014·60 feet

From Attok to Dehra Dhoon, 416 miles. The Trigonometrical difference of height is + 948·11 feet

The levelled + 913·05 feet

From Dehra Dhoon to Seronj, 429 miles, the Trigonometrical difference of height is + 130·10 feet

The levelled — 128·30 feet

And from Seronj to Karachi, 669 miles. The Trigonometrical difference of height is — 1531·36 feet

The *deduced* levelled difference — 1529·35 feet

On the other hand, there are errors of from 70 to 115 feet in the Trigonometrical heights which were measured before the necessity for limiting the observations to the time of minimum refraction was discovered.

The spirit levelling operations of the Survey are now being employed to connect together all the different lines of levels executed in this country by Canal and Railway Engineers, which will thus be reduced to the mean sea level as their common datum. This very desirable measure was recommended by the late Special Cholera Commission, because in their recent visits to various Military stations in the Punjab and N. W. Provinces, they had found much difficulty in forming a correct opinion as to the merits of existing or proposed works for drainage or water supply, on account of the absence of systematic sets of levels. The suggestions of the commission met with the approval of Government, and orders have been issued for the connexion of levels over the whole of India. The fact is singular, but not wholly uncharacteristic of Anglo-India, that a Geodesical undertaking of such interest and importance and such vast dimensions, should have its origin in a source which would seem to be so utterly incapable of affinity or alliance with Geodesy as Cholera.

The Kashmir Triangulation* originates on a side of the North West Himalaya series, between Sealkote and Goordaspore. It was commenced in the Spring of 1855 by Captain Montgo-

* We are indebted to the unpublished reports of Colonel Sir Andrew Waugh and Capt. Montgomerie, for much of the information which we are able to give on the subject of the Kashmir Survey.

metric of the Bengal Engineers, whose name has been so often before the public of late years in connexion with the interesting and extensive operations entrusted to his superintendence, which embrace not only the triangulation but also the topography of Kashmir and Ladak, and of the whole tract of mountains between the British frontier and Chinese Turkestan.

The Instrument employed in the principal triangulation was a 14 inch Theodolite by Troughton and Simms, the largest of the class of instruments suited for being carried over the stupendous Himalayan ranges.

In the first season the Pir Punjal was crossed under circumstances of great difficulty, the two stations thereon being respectively 15,000, and 13,000 feet high, and the range itself being liable to heavier falls of snow, and more constant clouds and mists than the inner and higher mountains, because it receives in the first instance and arrests the greater portion of the moisture which southerly winds exhale from the Indian ocean to deposit on the summits of the Himalayas. Thus at one station no less than twenty two days elapsed before all the necessary observations were completed, the party engaged thereon being exposed to the most inclement weather, and harassed by constant snow storms accompanied by incessant and severe electrical disturbances, necessitating the carrying about of a portable lightning conductor for the observatory tent. Unusual difficulty was experienced on the snow peaks in building the masonry station pillars. The highest part of the snow was not always over the highest part of the rock. Several shafts had to be sunk in the snow before the true summits could be found. Building material had to be dug out, and the snow had to be melted to slake the lime used for mortar.

The first season's triangulation having been laid out, arrangements were made to form a Topographical party to fill in the details of the triangles. Owing to the small establishments of the Survey, the difficulty of obtaining uncovenanted assistants on account of the competition of other departments of the state created by the recent commencement of Railways and Telegraphs, the sudden increase of public works, and other causes, combined with the length of time consumed in training young hands, and the difficulty of retaining them when trained, application was made to Government for the services of three or four Officers of the Quarter Master General's Department to survey Kashmir during the summer months, returning to their regular duties in the cold season, when field operations in Kashmir are

not practicable. Three Officers were accordingly appointed to the Survey, and they rendered most valuable assistance during the field season of 1856.

The next year the exigencies of the service did not admit of their return to the Survey. One of them Captain Lumsden, was deputed to join the mission to Kandahar, under his brother the well known commandant of the gallant Guide Corps. The others were actively employed with the troops engaged in subduing the mutiny. Their places were supplied by Officers who were permanently attached to the Department, and have ever since remained with it.

Although the splendid climate of Kashmir and Ladak, added to the special interest attaching to those countries and the adjoining unexplored tracts, make the Survey deservedly a great attraction, still the exposure of surveying in such tracts is very trying to the constitution, and many persons suffer from it. The solar radiation at high altitudes is very great, as was shown and to some extent measured by Professor Piazzi Smyth in his astronomical experiments on the Island of Teneriffe. At the height of 9,000 feet the mercury in his radiation thermometer rose above 178° , the graduated length of the scale, and accumulated to an unknown extent in the bulb at the end of the tube, the Professor estimating that on one occasion it would have reached 212° had the tube been long enough. The radiation increases as the altitude increases and the temperature diminishes.

Under such circumstances, the labor of climbing great elevations is much increased, as has often been noticed by explorers. The surveyor arrives heated with his exertions and has to stand on ridges or peaks exposed to strong cold winds, while he is observing angles or sketching the ground. The alternations of heat and cold, and the laborious exertion, limits success to those persons who to the requisite professional qualifications can add the physical constitution to stand the hardships which the work imposes. It is very doubtful whether the ability to undergo the fatigue and exposure can be reckoned on for a long continuance; and it is believed that, excepting in rare instances, a frequent succession of assistants will be necessary for these extensive mountain Surveys.

But neither the physical character of the country, nor the constant task of training new hands, formed the chief difficulty of a survey conducted in a foreign territory, and which at no time could be expected to be agreeable to the ruler, his officials, and

people. To them the influx of a body of surveyors spread all over the country, however orderly and well conducted, must bear the aspect of an intrusion. That amicable relations should have been uniformly maintained with the Court of Kashmir is sufficient testimony to the cordiality and good will of the successive Maharajahs, Goolab Sing and his son Runbeer Sing, and of the tact and ability with which Captain Montgomerie transacted business with the native authorities. His difficulties were much enhanced by the Military Rebellion of 1857, during the whole of which excited period the party continued its peaceful labors without cessation.

Ample testimony to Captain Montgomerie's services is borne in a letter from, alas that we should have to say, the late Lord Canning to Sir Roderick Murchison, President of the Royal Geographical Society, which we quote from the Proceedings of the Society for 1860.

CALCUTTA, *August 29th 1859.*

‘DEAR SIR RODERICK,

‘Last month I sent to the Secretary of State for India the first sheet of the Great Trigonometrical Survey of Kashmir, the work of Captain Montgomerie, of the Bengal Engineers, done under the Superintendence of Colonel Waugh, the Surveyor General of India. To my unlearned eye it is as fine an example of topographical drawing as I have ever seen, though the subject is one upon which I do not pretend to be an expert judge.

‘But I can speak to the difficulties under which Captain Montgomerie's task has been accomplished: not the physical difficulties of the ground only, but the awful discouragement and anxiety of finding himself almost alone in those wild mountains, the people of which had, to say the least, no sympathy with the English rule in India, and surrounded by Hindostanee Sepoys, whose comrades and relatives were amongst the most active movers in the chaos of murder and rebellion which was boiling in the plains below. You perhaps have heard that at Roorkee, the Head-Quarters of the Sappers, and at the foot of the Himalayas, the men of that corps early in the mutiny, shot their Commanding-Officer at the head of his column, and joined the ranks of the rebels.

‘Captain Montgomerie, however, by his own courage and tact, not only kept his men (soldiers of that same regiment) under discipline and got good work out of them, but brought them back loyal and attached to the service. They have now good cause to thank him.

‘ I know that these incidents add nothing to Captain Montgo-
‘ merie’s claims to notice on scientific grounds ; but if as I hope
‘ may be the case, the Royal Geographical Society should con-
‘ sider that his labors deserve to be noticed for their result, the
‘ circumstances under which they were carried out may perhaps
‘ be taken into account. If the Society think this young officer
‘ worthy of any honor, I shall greatly rejoice, both for his own
‘ sake and for that of the distinguished corps to which he belongs.

‘ I believe that there does not exist under any Government in
‘ the world a body of officers surpassing that of the Engineers of
‘ the Indian Army in the combination of high intellectual ability
‘ and acquirements with the most daring and persevering courage,
‘ if indeed there be any equal to it.

‘ I wish I had been able to push forward the Geological Survey
‘ more rapidly in accordance with your exhortations of four years
‘ ago. But the last two years and a half have given me other
‘ things to think of, and which is worse other things whereupon
‘ to spend our money ; even you yourself had you been here,
‘ would have had to turn your hammer once more into a sword.
‘ I hope however, to get some practical benefit out of the Kumaon
‘ iron district very shortly in the shape of castings (wrought iron
‘ will be a longer job) ; and the recent discovery of the extent,
‘ much greater than was known, of useful coal fields, not far from
‘ the line of the East India Railway in Lower Bengal, is a very
‘ welcome incident. On the other hand, I am sorry to say that
‘ I have just received a most discouraging report from Mr. Old-
‘ ham of the hopelessness of finding coal Northwestward of
‘ Allahabad.

‘ Believe me, dear Sir Roderick,

‘ Your’s very faithfully,

‘ (Sd.) CANNING.

‘ Sir Roderick J. Murchison, &c. &c.

‘ Belgrave Square.’

Lord Canning appears to have been misled by the circumstance
that the Trigonometrical Survey of Great Britain and Ireland is
for the most part executed by soldiers of the Royal Sappers and
Miners, to believe that in India Native Sappers are similarly
employed on the Survey. This has never been the case, and
Captain Montgomerie had no Sappers to keep under discipline,
nor any Hindostani soldiers but a Havildar’s guard from a Native
Infantry Regiment. But he had to endure ‘ the awful dis-
‘ couragement and anxiety of finding himself almost alone in
‘ those wild mountains,’ and his position won the sympathy and

respect of the great man who knew what it was to have been almost alone in those wild times, and who had borne himself bravely in the boiling chaos of murder and rebellion, always unsympathized with, often vilified. Alas that his wisdom, and his bitterly gained experience should be lost to his country and India for ever!

The filling in of the triangles in the Topographical operations in the Himalayas is effected by Plane Tabling. Numerous points previously fixed by the Trigonometrical operations are projected on the Plane Table chart for the assistance of the Surveyor, to serve as points of origin and verification, and to enable him to interpolate his position on the chart whenever necessary. This method of filling in details is particularly well adapted for rugged and difficult ground, and for Native states. It is independent of measuring chains and all such instruments, which could not possibly be employed in the Himalayas, and would be viewed with considerable mistrust and suspicion in Native states where they might raise the belief that an inventory of lands and property was being taken, with a view to future annexation.

Two scales have been used for the Topography of Kashmir, one of two miles to the inch for the valley and the hills immediately around, the other of four miles to the inch for Ladak and the higher and wilder ranges. A map of the former portion has been lithographed in London, and is now for sale in the office of the Surveyor General, Calcutta. It embraces the country between the parallels of $33^{\circ}20'$, and $34^{\circ}40'$, and the meridians of 74° , and $75^{\circ}30'$, including the Kamraj and Miraj divisions of the great valley, and the numerous small vallies leading into them from all sides, the Woolar and other lakes, the cities of Srinuggar and Islamabad, the Pir Punjal and Rutton Pir ranges, with their passes of the same name, the Murbut and Banihal passes, and the vallies of the Banihal, Rajuori and Kohi districts, near the British frontier.

Several copies of this map have been handsomely bound in velvet and silk, in mindful deference to a Sikh's prejudice against common leather binding, for presentation to the present Maharajah of Kashmir, who was greatly pleased to receive them and gave directions that the English names, should be translated, into Persian for his own use and that of his Court.

By the end of last season the districts of Dras, Sooroo, Kurtse, Kargil, Baltistan and the plains of Deosai, had also been completed, with portions of Ronyul, Ladak, Zanskar, Rupshee, Nubra and Antor or Hasora;—these last have to be finished, as well as the districts of Hanle, Yanktse, and Pangong which have still to

be surveyed, together with as much of the adjacent frontier of Chinese Tibet and Tartary as can be approached. Already the operations extend from lat. $32^{\circ} 20'$ to $36^{\circ} 12'$, and from long. $72^{\circ} 18'$ to $79^{\circ} 31'$.

Captain Montgomerie reports that 'year by year as the Survey has advanced, the physical difficulties have increased; the average height of the stations has latterly been from 17,000 to 20,000 feet above the sea, though fortunately the quantity of snow has not increased in the same proportion as the height. Indeed beyond the Himalayas the snow has been less than on lower peaks of the outer ranges, but, on the other hand, there has been a great increase of hardship from the sparseness of population and from the difficulty of procuring food and fuel, the latter being particularly felt in such inclement regions. For a time the surveyors have been entirely dependent on argols of Yak and other dung for fuel, occasionally aided by the thin roots of the Tibetan furze which can be grubbed up here and there.

'At first the population dealt with could all understand Hindustani, but latterly hardly any of the inhabitants have had the least idea of that language, and communication in Little Tibet and Ladak has been necessarily carried on by means of interpreters.

'Notwithstanding the great elevation of the country surveyed and the consequent severity of the climate, the rigorous rules of the G. T. Survey have been adhered to throughout.

'Luminous signals, either heliotropes* or reverberatory lamps, were used even on stations from 15,000 to 19,000 feet above the sea.

'The Hindustani clashes of the Survey seemed to have a real pride in serving the instruments entrusted to their charge. No matter what the weather might have been, and though the snow-falls on the stations were occasionally so heavy that rays had to

* A heliotrope is a circular mirror fitted with mechanism for vertical and horizontal motion, that it may be turned by hand so as to follow the motion of the sun and reflect rays in any required direction. It is usually 10 to 12 inches diameter to be capable of sending flashes powerful enough to attract notice at a distance. As, however, so large a blaze of light would dazzle the eye of any one observing it through a powerful telescope, the heliotrope is supplied with diaphragms, like the stops of a photographic camera, to regulate the diameter of the transmitted pencil of rays, which is usually made about a tenth of an inch per mile of distance from the observer.

'be cleared through the snow, yet the signal men were always ready to show their heliotropes and lamps.

'As a general rule they responded at once to the observer's signals.

'A heliotrope shining out from the top of a snowy cone was by no means an uncommon sight, and its effect can be better imagined than described.

'The difference of elevation between the stations being usually very large, orders were transmitted to great distances by means of the heliotropes.

'Altogether great credit is due to the natives of the plains who served the signals at such elevations in such a rigorous and to them uncongenial climate.

'The commissariat and financial arrangements for a large Survey party were in themselves very difficult. Food had sometimes to be carried fifteen to thirty marches. Ready money payments had to be made to the Tartars. The transmission of letters was not easy. Besides which numerous other difficulties naturally occur in carrying on survey operations over a vast tract of the most rugged and elevated country in the world. Altogether this Survey formed a very complicated task as will be readily admitted when the extent of the country under Survey is known to nearly equal the area of Great Britain, and to be in many places destitute for seven to fifteen marches of all the necessities of life except water, which even occasionally failed, nothing but salt water being procurable.

'The junction which has been made between the Kashmir series and the North West Himalaya series in the neighbourhood of the Barra Lacha Pass gives every confidence in the accuracy of the results, which indeed is remarkable, bearing in mind that the junction made is between secondary stations.

'In a total circuit of about 890 miles, of which nearly 500 appertain to the Kashmir series, there is only a discrepancy of eight-tenths of a second in latitude, and one-tenth of a second in longitude, and a difference of $1\frac{1}{2}$ feet in the height of peaks over 18,000 feet, after levelling across mountains of every altitude, from the plains up to 20,000 feet,—a result which must be considered decidedly satisfactory.'

In the seven years 1855-61 the triangulation executed by the Kashmir party has covered an area of 93,500 square miles, executed at a cost of Rs. 2-0 per mile, while 47,000 miles have been topographically filled in at an additional cost of Rs. 1-12. For some years nearly one third of the whole strength of the

Trigonometrical Survey has been concentrated on these interesting operations.

The numerous notices which have been published from time to time in the Journals of the Asiatic Society regarding the progress of the Kashmir Survey, and which have usually been reprinted in the columns of the local newspapers, render it unnecessary for us to dwell much longer on this the most interesting and popular section of the Trigonometrical Survey. The latest accounts mention the discovery and survey of great glaciers by Captain Austen in the Braldo and Baska branches of the Shugar Valley,—the Biltora glacier no less than 36 miles long, the Biafogause, nearly as long and forming with the glacier on the Nuggur side, from which the watershed is not sufficiently marked to part it, a continuous mass of ice nearly 64 miles in length, unequalled in dimensions by any known glacier out of the Arctic regions. Capt. Melville has recently added photography to his topographical operations, and has commenced a series of very a admirable photographs, which we hope soon to see published, in illustration of the inhabitants and the scenery of the districts under survey.

Each succeeding season some surveyor ascends higher than he or either of his comrades had ever done before. The latest and greatest exploit of this kind was achieved by Mr. Johnson, who took observations at a station more than 20,600 feet above the sea or upwards of 600 feet higher than any on which a theodolite had been previously up, though a mark has been erected as high as 21,480 feet. The height of Mr. Johnson's station, he it remembered, has been rigorously deduced from reciprocal trigonometrical operations, and not obtained by boiling point thermometers, which scientific explorers have been known to employ, and flatter themselves they had reached altitudes never before attained, while in reality their fancied exaltation was caused by their not having enough fuel to make water boil. In the Survey, thermometers are only used when it is required to fix the height of a pass, or other position which cannot be seen from any of the Trigonometrical stations. But the thermometers are invariably boiled in the first instance at the nearest convenient stations above and below the places where they are to be employed. Thus their boiling points become known for certain known altitudes, and it is hence easy to find by interpolation the altitudes corresponding to intermediate boiling points. All the errors to which these instruments are liable are more surely eliminated by this process, than by any other.

It is a singular circumstance that the heights of the mountains

around Kashmir have been generally greatly under-estimated by all the scientific travellers who visited the valley previously to the operations of the Trigonometrical Survey. They obtained the mean height of the valley very closely, but the great Nunga Parbut, which reaches a height of 26,630 feet, was supposed by Vigne and Cunningham to be only 19,000 feet high, which is nearly a mile and a half less than its true altitude; while the Hiramook mountain was under-estimated by 3560 feet, a mistake the more curious because the mountain is so near Srinagar that its summit may be seen by reflection in the lakes, and its altitude can therefore be easily measured with a sextant. These mistakes created the erroneous impression that the mountains of the Western Himalayas are much lower than their Eastern sisters, which is far from true;—on the Karakoram Range a peak has been discovered whose height is 28,290 feet, the highest known mountain in the world after Mount Everest.

We have placed among the publications at the head of this article the first volume of the results of the De Schlagintweits' mission to India and High Asia, as it gives values of the Geographical positions of several places subsequently fixed by the operations of the Trigonometrical Survey in Ladak and Thibet, which therefore serve as a measure of the accuracy of the methods of observation adopted by the members of the mission.

We do not share the annoyance which has been so extensively occasioned by the selection of foreigners instead of our own countrymen for these interesting scientific enquiries. So long as science is advanced it matters little who are the instruments employed in its promotion. Our rulers fall into no very uncommon mistake when they prefer and show most honor to the prophets of science of countries other than their own. Nor is the selection without its advantages, for the work done is likely to be all the more thoroughly analyzed and sifted; its errors will be more certainly and speedily exposed; while all in it that is good and valuable will find friends enough to espouse and protect it.

While we readily acknowledge the extent of valuable information collected by the learned pupils of the illustrious Alexandro Von Humboldt, we cannot but wish that they had published the result of their labours with less pretension and elaboration. We believe that the astronomical and magnetic observations contained in their first volume might have been very easily and with great advantage compressed into one small octavo volume rather than expanded over a large quarto. We confess to feeling somewhat appalled on learning that eight more such quartos are

still in store for us to hunt through, and patiently attempt to extract the wheat from its husk.

We find no less than seven pages of quarto devoted to the details of a few latitude and longitude observations at Leh, depending on a small Theodolite and Chronometer. Elegant as is the process by which they are reduced, we do not feel much interest in the details of the differential equations, or their treatment by the method of least squares, and we doubt their utility as much as we dislike their ostentatious display, when we find that the resulting longitude is erroneous by about 22 miles, being $77^{\circ}14'30''$ instead of $77^{\circ}36'42''$ as subsequently determined by the Trigonometrical Survey. We are not surprised at the amount of the error, as the observations were dependant on a single Chronometer which had been rated at Simla four months previously, and had meanwhile been carried over the highest mountain ranges in the world. But we think the Messrs De Schlagintweit should have been more cautious in adopting their thus obtained value of the longitude of Leh, in preference to that given in map of the Punjab (1854),* which they merely notice with the remark that 'it makes the longitude more than $20'$ farther to the East.'

From Leh northwards their map exhibits a series of western proclivities culminating in Tibet and Turkestan, where the chief towns are placed about 2° west of the positions hitherto assigned them, for the most part by the astronomical observations and itineraries of the French Jesuits in China. It is much to be regretted that the Missionaries were unable to extend their triangulation of China to these provinces, but, so long as they remain the only European geographers who have visited these countries, and have been allowed to take observations without molestation or hindrance, we must adopt their positions, however roughly determined, in preference to any other values. Humboldt makes the following remarks on this subject in the second volume of his *Asie Centrale*:—

'Je pense qu' aussi longtemps que dans les mêmes points on n'aura pas fait de nouvelles observations astronomiques, il est prudent de conserver les positions adoptées par des personnes qui non-seulement avaient l'habitude d'une discussion sévère des directions et des distances, mais qui ont pu se livrer à ces discussions dans l'intérieur même de l'Asie.'

The Survey operations have fixed the positions of the Ka-

* Published under the superintendence of Captain Thuillier, at the Office of the Surveyor General, Calcutta.

rakorum and Mustak passes which are within twenty marches of Yarkand, and we know that the prevailing impression of the officers employed in these operations is that Yarkand is slightly to the East of the position assigned by the Missionaries, whereas the Messrs De Schlagintweit place it 2° , or about 120 miles, further West. They make a similar alteration in the position of Lake Sirikol in the Pamir mountains, most unjustifiably we think, for its longitude was determined in person by Lieutenant Wood of the India Navy, the only European who is known to have visited the lake during the present century, and who moreover was a very skilful observer and geographer.

Bokhara they place, without visiting, $2\frac{1}{2}^{\circ}$ west of the position hitherto assigned, and Tashkend upwards of 4° ; on which an eminent geographer has remarked that 'if the Aral were to recede in the same proportion, it would fall into the Caspian.'

These hasty and inaccurate alterations are not creditable to their authors, who were evidently in a hurry to furnish the public with the fruits of their labours, of the value of which they do not seem to have had any misgivings. We doubt whether any geographer would adopt their positions instead of those hitherto accepted, and we are not surprised to find that in a map of 'Asia between the parallels of 20° and 60° , recently published in the Office of the Surveyor General, the original values of places in Tibet and Turkestan have been used in preference to those adopted by the mission to 'High Asia.'

We must now bid farewell to these interesting topics, and continue our narration of the progress made by the Survey in other parts of India since we last reviewed its operations. Our limits warn us to be brief, nor do we care to inflict on our readers the dry details of the ordinary operations of the Survey. Few persons have any idea of the labor they often involve. The mere measurement of the angles of a triangle would seem to have nothing so difficult about it, but that a slight training would enable most persons to acquire the necessary skill in manipulating the large Theodolites. But the successful carrying of a connected series of triangles, without a single weak link in the whole chain, along any given direction, without turning to the right hand or to the left, whatever the nature of the country or the obstacles to be crossed, is a matter of no small difficulty, and requires a rare combination of energy, judgment, and physical ability. The number of measures of each angle which have to be taken, and repeated on different parts of the graduated circle, to eliminate accidental and instrumental errors, entail an amount

of labor which is little imagined. Often in the morning, always from noon until sunset, and afterwards for at least half the night, the observer is at work, watching his signal heliotropes and lamps through all their mazy wanderings, and patiently trying to make his telescope bisect their paths. Years ago Colonel Everest wrote as follows, of the difficulties of carrying a rigorous triangulation over the plains.

‘The smoke from the daily and nightly fires, which, particularly in the cold season envelopes the villages and clings to the groves surrounding them; that arising from brick and lime kilns and conflagration of weeds; the clouds of dust raised by herdsmen and their cattle, in going out to graze in the morning and returning in the evening; by travellers and processions of men, carriages and cattle proceeding along the divers roads for business or pleasure, and by the force of the wind, the slightest action of which suffices in this arid parched-up soil to obscure the view, form an assemblage of obstacles which it is only possible in very favorable contingencies to surmount.’

These favorable contingencies only occur for short intervals which happen at very varying times of the day and night; and thus the observer has to be constantly on the watch that no opportunity may escape him. Few persons, but those who have tried, know the wearisomeness of ten or twelve successive hours, or even half that time, spent in an observatory tent measuring angles. Great is the amount of strong green tea which has to be imbibed at night on these occasions, to keep the observer from falling down asleep on his instrument. And the results so laboriously obtained are not of a showy nature. The chart of triangulation possesses far less general interest than the topographical map of which it is the basis. It is no slight addition to the ordinary discouragements of the triangulator that his labors are so slightly appreciated, while those of his comrades of the pencil and color box are so highly prized, and he needs considerable hardiness and pertinacity to carry his work steadily forward, heedless of the soft seductions of local authorities, who are ever anxious to catch hold of a Surveyor, and employ him on making maps to illustrate their favorite projects, for the amelioration and development of the districts under their control.

We might enlarge on the other trigonometrical operations which have been carried on simultaneously with those we have already described. But we have promised not to inflict dry details on our readers, so we will merely state that they comprise the following principal series of triangles with their usual

accompaniments of secondaries; a double series from Purnees eastwards to Gowhatty, and thence to Sylhet;—another along the East coast from Calcutta to Vizagapatam;—a third, West of the great Arc, along the meridian of Ragoon, from the Himalayas to the Calcutta longitudinal Arc;—a single series, laboring under the cruel appellation of Goorhagur, because it unfortunately has for its meridian the Goorhagur Station of the N. W. Himalaya triangles, though we think it might with greater intelligibility and equal propriety have been termed the Umritsur series, as it follows the meridian of that city,—is the southern extension of the Kashmir triangulation to the longitudinal Arc;—a meridional series, provokingly denominated the Jogi Tila, from Jhelum to Pak Puttun;—an oblique Sutlej series from Mittun Kote to Pak Puttun;—and several small longitudinal and meridional series in the northern portion of the Bombay Presidency, the triangulation of which is now completed.

In the twelve years since 1849, to which year Colonel Waugh's Blue Book gives the details of the progress of the Survey, the following amount of work has been executed:—

Himalayan Triangulation,...	...	...	161,011 sq. miles.
All other Triangulation, ..	...	...	171,112 „ „
Amounting to,			332,123 „ „

Himalayan Topography,	89,895 „ „
Spirit leveling (commenced in 1858) ..	1629 linear miles.

In other words, the triangulation performed in these twelve years covers an area nearly treble that of Great Britain and Ireland, of which a portion almost exactly equal to England, Scotland and Wales* combined, has been topographically delineated in the Himalayas, on the scale of four miles to the inch;—in addition a line of levels has been executed, which is probably the longest ever measured in any part of the world. The average cost of the Triangulation, including superintendence, head quarters offices, special astronomical observations,

* The following areas are taken from Black's Atlas—

England, 50,898	square miles.
Wales, 7,430	„ „
Scotland 32,164	„ „
Ireland, 31,874	„ „

Total	122,366	„	„
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and all charges other than Military salaries connected with the department, has been less than Rs. 9 or eighteen shillings per square mile, while the Topography has cost less than Rs. 3-8, or seven shillings.

During almost the whole of this period the Trigonometrical Survey was superintended by Andrew Scott Waugh of the Bengal Engineers, who was appointed to its charge, together with the Surveyor Generalship of India, in succession to Colonel Everest, in the year 1844, while he was still a subaltern. After holding the combined appointments for seventeen years, he resigned the service in March 1861 as Major General Sir Andrew Waugh, having been knighted by the Queen in acknowledgment of his services to Geography.

Colonel Everest who for so many years was the iron chief of the Indian Survey, and who enjoys the rare merit of having initiated methods of operation and formulæ of computation of superior rigor and accuracy to any ever before employed, and who never did any thing by halves, wrote thus strongly in favor of Lieutenant Waugh on recommending him to the Hon'ble Court of Directors as a successor to himself.

'He is beloved and respected by all the subordinate members of my department and held in honor and esteem by all who know him personally; his talents, acquirements and habits, as a scholar, a mathematician, a gentleman and a soldier are of high order, and as such I feel that in recommending him as a fit person to succeed me, I do but perform the last essential service which I may ever have it in my power to render to masters from whom I have received so many acts of kindness, and to whom my gratitude will be for ever due.'

While his labors in the service of Government were unremitting, he at the same time succeeded in winning the regard and affection of his assistants to an extent which few heads of departments are fortunate enough to obtain. More particularly was he beloved by that large and important section of the Survey whose members belong to the Uncovenanted Service, which has furnished the department with many true men and brave, who have worked side by side with their military Officers, and vied with them in readiness to undergo fatigue, exposure and privations of every kind, and one of whom at present holds the palm of having ascended the loftiest Himalayan summit yet reached by any surveyor.

Sir Andrew's kindness and consideration were most displayed where most needed. And he has bequeathed to his successor in

the Superintendence of the Trigonometrical Survey the task of retaining the regard and esteem which has thus been created for the Head of the department.

A few words on the future operations of the Trigonometrical Survey may fitly close this Article.

The greater portion of the triangulation of India Proper is now completed, and only three meridional series, East of the great Arc and South of the Calcutta longitudinal series, remain to be done. One of these will extend from Jubbulpore to Madras, and might afterwards be continued Southwards to Ceylon. West of the axis of Indian Geography four small series have still to be completed, the Southern continuation of the Jogi Tila, two meridional series in Rajpootana between the Sutlej and the Karachi arc of longitude, and one on the meridian of Mangalore between the parallels of Mangalore and Bombay, in southern continuation of the Khanpissura series, which is again a continuation of the Goorhagur and Kashmir series, all being nearly on the same meridian. Mangalore and Madras should be connected by a longitudinal triangulation, crossing the great Arc at Bangalore, where there ought to be a base line. The series of triangles on the meridian of Madras and Mangalore will thus become especially valuable, as additional arcs for the determination of the figure of the earth; their lengths may be made as much as $11\frac{1}{2}$ degrees without bringing their northern extremities into dangerous proximity to the plummet-attracting Himalayas.

Of most immediate importance is the extension of the Calcutta longitudinal Arc to the Eastern Frontier, which is required for the Atlas sheets of the districts East and North of Calcutta. It will probably be taken in hand immediately, and as the triangulation is not of great length, we may hope at no very distant date to receive the long delayed Atlas sheets of these districts, which are so much wanted.

Formidable is the task which awaits the Trigonometrical Surveyors on the Eastern frontier. Their triangles have to be carried through independent Tipperah, Chittagong and Arracan into Pegu, thence into the Tenasserim Provinces and down the Malayan Peninsula to Singapore. The greater portion of this vast distance is covered with dense jungle, through which in many parts roads have not yet been constructed. This sort of ground is the most difficult of any for Survey operations. When the Surveyor who is reconnoitering for stations reaches the summit of a hill, instead of seeing the country around mapped out before him, enabling him almost at a glance to decide on a

line of operations, he has often to spend days in cutting down trees to open out the view, perhaps to find all his labor lost, because some other hill, before invisible, is discovered to intervene between him and the objects he wishes to see.

A longitudinal series of triangles has to be carried eastwards from Gowhatty to the extremity of the Assam valley, where a terminal base line should be measured which will be nearly on the same meridian as the base line to be measured in Pegu.

It is hoped that our relations with the Burmese Government may allow of the connexion of the Assam and Pegu base lines by a meridional series passing through Ava, which will be a fitting boundary to the eastern triangulation of British India and its dependencies.

On the completion of the topography of Kashmir and Ladak, which may be expected in one or two more seasons, unless the falls of snow are unusually severe, the surveyors will be transferred to take up the topography of Kumaon and Gurwal. We hope that arrangements may be made with the Nepalese Court for the extension of the Survey into Nepal, which is a very great desideratum, not only for the ordinary practical purposes of a survey, such as affording local information and opening out routes for trade, but for the sake of Geographical science. Higher mountains than Mount Everest may still await discovery in the interior ranges, which the jealous and exclusive policy of the Nepalese has hitherto concealed from the gaze of our surveyors. Surely Jung Bahadoor might with a little exertion be persuaded to imitate the liberal and enlightened policy of the Ruler of Kashmir, for recent events ought to have disabused him of the now puerile idea that the entrance of Europeans into a native state is but the precursor of its annexation to the British dominions.

While the more purely practical operations of the Trigonometrical Survey will be carried on as rapidly as the strength of the Department will permit, opportunities of adding to the stores of Geodesical science will not be lost sight of. It is in contemplation to carry a series of Astronomical observations for the determination of latitude down Colonel Everest's great meridional Arc, and another series along the longitudinal arc between Calcutta and Karachi. These may be expected to throw some light on the question of local attraction, as well as to give a more correct mean figure of the Indian arc than can be deduced so long as the Astronomical observations are limited to its centre and extremities. The Mangalore and Madras arcs will also be valuable contributions to Geodesy.

But an operation of greater interest and importance will be the employment of the Electric Telegraph, which now connects the remotest parts of British India, to determine Astronomical differences of longitude between the most important Stations of the Survey. Thus an Astronomical arc of longitude extending from Rangoon to Karachi, of no less than 30° in length, will be eventually measured, and when compared with the Trigonometrical value of the same Arc, will throw light on the figure of the Earth. The Telegraph lines which are now in process of construction between the Mediterranean Sea and Karachi will be employed as links of a chain of operations which are required to determine the difference of longitude between India and England, and will be further useful in fixing the longitudes of places in Egypt, Arabia, and Persia, which no Trigonometrical Survey is likely to reach during the present century.

Whether Submarine Telegraphs will ever succeed in Indian seas is very questionable, but it is probable enough that sanguine capitalists may expect them to do so, and risk the venture. We entirely approve of a suggestion which has been made to Government to allow Officers of the Trigonometrical Survey to accompany all such enterprises, more particularly those of which the eventual success is most doubtful, in order to take advantage of the primary success which, though often short-lived, has always hitherto attended these operations. Had a few Astronomers accompanied the expedition for laying down the Submarine cable between Suez and Karachi, and been furnished with the requisite instruments, they could easily have taken a sufficient number of observations for determining the arc of longitude, during the time that communication remained perfect. Thus the cable would have been the means of effecting at least one object during its ephemeral existence.

The Survey does not yet possess suitable instruments for these purposes, but we understand that the Secretary of State for India has most promptly and liberally sanctioned a recent application for them, which was supported by the Astronomer Royal. In order that their construction may be efficiently superintended, Sir Charles Wood has secured the services of a retired officer of the Trigonometrical Survey of India, Colonel Strange, whose mechanical skill has contributed in no small degree towards perfecting the instruments of the Indian Survey, and whose successful execution of the Western Longitudinal Triangulation we have already noticed in this article.

Vernacular Education in Orissa.

ART. III. Mr. Seton Karr's *Letter to the Secretary to the Government of India*, dated 19th October, 1860.

YEARS ago, the question was debated as to what scheme the Government should adopt for the education of its millions of British Indian subjects. It had done a good deal, in years gone by, to encourage first the cultivation of Oriental classical learning, and then that of English literature and science; but next to nothing for the enlightenment of the masses. The state, however, was in financial difficulties, and could not, in consequence, afford to be over-liberal with the public funds. Still the time was assumed to have arrived, when something should be done for the cause of popular education. The Home Government was importunate and sent out a despatch, laying down a broad and liberal policy. As results, we have Universities at the Presidency towns, an expensive Department—speaking comparatively—for direction and inspection, a few Vernacular Schools, scattered over the country, and a grant-in-aid system, which is inoperative, because premature; but still no general scheme, which reaches the masses, or is in any degree adequate to their wants and numbers. Our educational funds, as it appears to us, have been in the main devoted to forcing embryo ‘Masters,’ and ‘Bachelors,’ in supplementing or supplying the funds of schools, where native lads are taught to ‘murder the Queen’s English,’ and, in short, in benefiting a class or sections of classes, who, while they have most desire for a little education—a desire the offspring of a keen perception of its practical and immediate utility to themselves—are, at the same time, just the class who are quite able to pay liberally for their share of the benefit.

The question was debated, we have said, and now after the lapse of two or three years we have had published a summary of the results of the debate as far as Government took part therein, with the outline of a scheme founded on those results. The publication of this summary, so long after date, if it mean any thing, must surely point to a revival of ‘the previous question,’ to a desire on the part of Government to ventilate anew the subject of popular education, and its willingness, with the prospect of improving

finances, to undertake more than it has done for the popular cause, in this very important item of its duties and obligations. In this view the apparent purposelessness of now promulgating the late Bengal Secretary's letter of the 19th October 1860, so long after the subject of discussion has passed from before the public, is satisfactorily and sufficiently explained.

It is not our purpose to analyze, to approve or combat the conclusions or suggestions of this letter: many of them are precisely our own. But the whole system, so constituted, we presume, has been on practical trial ever since, with what success is fully known to those only, who may be behind the Departmental screens; for scant of late has been the information made public on the subject. At this juncture, however, we desire to offer certain suggestions on the subject of the education of the people by means of their own Vernacular, which were put on paper, and intended to have been put forth when that question was first broached. And the same excuse, that to our apprehension suffices, as above hinted, for the justification of Government, in now, after the lapse of years, giving to the public Mr. Seton Karr's letter of the 19th October, will perhaps be admitted also in our own case.

We have a further apology to make. British India is an extensive empire, embracing within its limits races who present a great variety in their physical and moral aspects, in language and creed, temper and intelligence, customs and prejudices. The same observation applies with truth, in a less degree, even to those provinces into which the empire is sub-divided. No one, without such extensive experience as is possessed by few, is competent to enunciate from his own little corner of the country, views and opinions, plans and propositions, which shall be equally applicable and suitable to all these varying races and conditions. The broad principles of a policy, may be the same for North and South, East and West. But when we descend to practice, to the adaptation of a policy, to the elaboration of a scheme or plan by means of which it is to be applied, and its objects are to be attained, special considerations, peculiarities, and prejudices, varying with latitude and longitude, require attention and allowance. It is on this account that our suggestions in this paper shall entirely, and our remarks generally speaking, be limited in their reference to a small section of the Lower Provinces, namely, to the Province of Orissa, as at present defined. In this section of the country, we have well defined and moderate limits to work within, and a sufficiently numerous population, with a well defined character

and distinct dialect, to work upon. There is a great call for experiment here, especially if we consider the backward condition of the Province, and the comparatively slight efforts that have been made to improve and advance it; and that here, just as much as elsewhere, we have not yet succeeded in our quest after what shall be a popular, practical and practicable plan of Vernacular education.

It may perhaps be proper for us in the first place to glance slightly at the character of the people with whom we have to do, in so far as it concerns our subject.

The people of Orissa prior to the commencement of the present century had, for many years, been under the iron rule of the Marhattas, a rule, as far as Orissa was concerned, pre-eminently rapacious and selfish, cruel and unscrupulous. The country was held by them latterly solely for the revenue it could be made to yield, in the same spirit that first prompted the robber hordes of its conquerors to overrun and plunder it from time to time, long before they acquired such title, as they at a subsequent period possessed, more regularly to collect and appropriate its revenues. Revenue was with them the main point. To the blind and short sighted policy of these barbarians, the improvement of the country by facilities of intercommunication, the prosperity and contentment of the people, not to mention their education, were subjects that never suggested themselves. If a native Oryah appeared on ordinary occasions with a decent garment round his loins, the circumstance was assumed to indicate that he was better off than he should be, and he had to pay for his temerity. If the wife of a native Oryah exhibited herself in public with a ring in her nose, or a pair of valuable bangles on her wrists, she was marked, and the Marhattas knew only too well how to turn such a circumstance into money. Force and fraud were the only laws familiar to the rulers and the ruled, and from long habit, resort to the former appears almost a necessity in some parts, even in these days of courts and litigation, while the latter has become a habit of mind, so inveterate as to force the inference that the people do not regard it as a vice. Those who have been in familiar contact with the people, more especially in places at a distance from the centres of population, will have observed traits of character, and heard popular proverbs, illustrative of what has been said above. •

A long reign of oppression of this description, has obliterated all the better qualities, which, we may suppose, existed in the character of the old Oryah. His was ground to the earth, till

he became an abject slave, without a spark of independent feeling, pride or self-respect. He had been taught by long hereditary, as well as by personal experience, to regard with suspicion every motive and action of his masters, until his mind became diseased, and this remains its now normal condition. He was reduced to that state of destitution, in which truth and honor appear but expensive luxuries. Such we found him in 1803; and his character at the present day bears a close likeness to this picture.

Out of such a long night of mental darkness and physical oppression he suddenly emerged, when the British wrested the country from his oppressors, at a date that may almost be called recent; and because he did not at once open his eyes to the light, and his mind to the liberty that then burst on him, and because his old habits still clung to him, his new masters, or his more favored neighbours, delight to designate him the Bæotian of India. The ancient Bæotia produced Pindar and Plutarch, and the modern one seems also to have produced at least one man of genius, Mrootunjoy, who in 1803 was at the head of the establishment of Pundits at the College of Fort William, as first constituted by Lord Wellesley, and is said by a late writer, no doubt thoroughly informed on the subject, to have been a 'Collector of literature, his knowledge of Sanscrit classics unrivalled, and his Bengalee composition never surpassed for ease, simplicity and vigor;' he was one of the principal teachers of the learned Dr. Carey.

Nearly as much as has been said of the Oryah, might perhaps be said of the Bengalee, and Hindoostance many years ago; but neither was so subjected to the Marhatta rule. The Mogul rule at least was not so pre-eminently selfish and rapacious; and a great deal of the comparative advancement of the Bengalee may be attributed to his much prior contact with Europeans. In due time, the same results will exhibit themselves in Orissa as in Bengal; but the life of a generation forms about the same measure of the progress of a nation, as perhaps the period of a year in that of an individual, we cannot therefore expect any sudden change. It must also be allowed, that the debasing creed of Hindooism, as at present received, appears always to have had among the Oryahs its most faithful votaries, and caste one of its strongest holds—a fact that has no doubt contributed not a little to the degradation of the people.

Such then, practically speaking, is the character of the Oryah to this day—naturally suspicious and apprehensive of all motives

and actions on the part of his rulers, especially of such as tend most directly to elevate and improve his condition, as education, any system of Municipal Conservancy &c., because he cannot understand disinterestedness, or the moral obligations of duty. Far behind his neighbours in means to make himself comfortable, with a natural bent and relish for fraud and chicanery, and when these can secure any private ends of feeling or profit, resorting to them without scruple; wedded to his conservative and barbarous superstitions, and yielding a blind and unquestioning obedience to his spiritual teachers.

Now, few Oryahs from personal experience are able to appreciate the value of a good education. They have never been well educated themselves; they cannot therefore comprehend the refined argument that knowledge is to be acquired for its own sake. Nor can they, on the other hand, see that there is much force in the more practical argument, that knowledge should be acquired for the advancement and material advantage it secures. The former is a proposition that can be addressed to a civilized and enlightened people only. In reply to the latter, the Oryahs say:—our children must be, generally speaking, what we are, they must follow for the most part the same handicraft, profession or trade, and for this purpose no particular education is necessary. As for Government service, we do not see the advisability of putting ourselves to straits now, with the view of hereafter securing it for our sons. Government service is a will-o'-the-wisp, which we should never be able to approach; for all the chief subordinate offices, civil, fiscal and judicial, are occupied by Bengalees; every department swarms with their kith and kin. What chance have our sons under such circumstances, to succeed in their efforts to obtain Government Service without interest, where interest is all prevailing? And there is force in this rejoinder; for in the list of subordinate employés, the Mookerjees, Bauerjees, Boses and Ghoses, and other uncouth Bengalee patronymies preponderate; the Musalmans are not a few; while the Dass, the Putnaick, the Pudhan, the Mabanty and other Oryah caste names are in the minority. Out of about 550 employés in the offices, Sudder and Mofussil, of the Magistrate, Collector and Salt Agents of the Province, as reported in 1859, and making a deduction of 120, on account of Canoongoes, whose posts are hereditary, only 216 were Oryahs, while 224 were Bengalees, the rest Musalmans. Setting aside the past few years, there is no doubt, the Bengalee candidate has been preferred to the Oryah, not so much because

he was more fit, as because he was backed by the interest of the Sirishtadar or other head native officer, and aided not a little by the Bengalee sympathies of the 'Hakim.' Had not this been the case, had a larger degree of patronage been extended to the Oryah, as having more right to local appointments than strangers, and due allowance made for the disadvantages under which he had labored, as compared with the Bengalee, the desiderated impetus to education would have long ago been given, and would now be shewing results. Recent rules, however, and a more impartial consideration for the Oryah, have already begun to work a change in this respect; and the Oryah begins to believe, that education is likely to benefit his children. We may thus hope, that the necessary movement has begun at all events, and there is no reason to doubt, that there needs only a practical plan of education, adapted to the character and resources of the people and patiently and steadily persevered in by duly selected agents, to give education a firm footing in the Province.

We need not stay to argue the obligation of Government to educate the people. That it is our duty, in consideration of the debased and ignorant condition in which we find them, to shew them what their duty and interest should lead them to do for themselves; to place within their reach the incentives to, as well as the elements of, enlightenment, civilization and advancement, is plain. But it is not so plain, that Government is bound to cover the country with expensive schools, normal and model, and to take the entire education of the people into its own hands, and at its own exclusive expense. Example and assistance appear to be all that Government is required to afford, and in the due and judicious application of these principles to a broad, suitable, and practicable basis lies, in our humble opinion, the secret of a successful Government scheme of general education for Orissa.

To what plan or basis shall these principles be applied, so as best to meet the idiosyncrasies, the prejudices, and the condition, mental and material, of the people? Would it be best to ignore altogether their own efforts in the way of education, feeble and misdirected as they are, and at once to inaugurate a new system on the part of Government, altogether independent of those efforts? Or would it be advisable rather to supplement them and to introduce such elements of improvement and progress, as would gradually work out a more perfect and satisfactory scheme, without any violent change or innovation? To graft on the old stem, which has sturdy and strong roots, new branches of a more

generous kind, rather than to uproot or even neglect it, and substitute a sapling, new to the soil and climate, which would be long in attaining to maturity? The answer, we think, is plain.

We assume then that our chief attention and study should be directed to, and our efforts based upon, the indigenous machinery, so to speak, of the people themselves. Native schools, or 'chatsalees,' as they are called, rather abound than otherwise in the country. In 1854, on a requisition from Government, and after due enquiry through the police, there were reported to be in the Cuttack District 2,074 schools, with 15,547 scholars; in the Pooree District 510 schools, with 5,542 scholars. For the Balasore District we may safely allow 500 schools, with 6,000 scholars. Or a total aggregate of 3,084 schools, with 27,089 boys for the whole. The total population of the three Districts, as ascertained about the same year, was in round numbers 2,550,000. These last figures are open to doubt. But we are inclined, for the purposes of this paper, to assume the population as 2,000,000. Assume that about 10 per cent of this number are lads who should, under circumstances far more favorable than exist, be at school. (We have read somewhere that nine per cent is the proportion allowed in England.) In this country an inevitable deduction of $\frac{1}{3}$ must be allowed, as representing the number of boys who cannot attend school on account of the extreme poverty of their parents, caste prejudices, and other reasons; and the proportion would be as follows:—

Boys who should be at school	...	...	...	...	200,000
Deduct boys who cannot be at school	...	...	...	...	65,000
Boys who are at school	...	...	...	...	27,000

If the above data and assumptions are correct, we have the not unsatisfactory result, to speak comparatively, that one fifth of the number of lads, who can, and should, be at school, are really being educated in some sort of way already. The absence of any encouragement to education, the general poverty of the masses, and other causes that might be cited, render these results encouraging. It should seem from the above figures, that the average attendance at each *chatsalee* is about $7\frac{1}{2}$, which will appear a very likely average, to those who have seen many of them. To promise that in the course of a few years, as the result of attentive and considerate supervision, and material resistance on the part of Government, and as the natural fruit of those measures, which Government have taken or may take for encouraging and fostering education in the country, this small average shall be much increased, as far as the

existing schools are concerned, and many new *chatsulees* established by the people of their own motion, is to promise not more than may be assuredly predicted.

For our own part, we think it a most encouraging fact, that 27,000 Orissah lads are being educated in the indigenous schools. Additions to this number may we think be made, on the ground, that it is a well known practice in the country for Zemindars and wealthy families to have a schoolmaster attached to their establishments, and to educate their children privately at home. The results would thus be found still more favourable. But the fact, that there are 3085 schools, as many masters, and upwards of 27,000 boys to commence operations with, presents we think no insufficient basis to work on. In fact there are here a great many more schools than Government can directly aid, enough fully to occupy the time and attention of its existing agency, and more than enough to demand a much larger supply of improved school literature than is at present, or is likely to be for some time to come, available.

A great deal has been written and said about the rapid and encouraging advance of education in certain Districts of the N. W. P., and that not without sufficient reason. But when we come to compare notes, it will be found that in 1853 even after Mr. Reid's system had been in full and successful operation for three years, in those eight districts, among a male population of 4,272,000, he could only number 3469 schools with 36,884 scholars, including, it may be presumed, the Government Schools; while the numbers of schools and scholars before his system was introduced in 1850, were respectively 2,011 and 17,169 only. The results in Orissa, as reported in 1854, contrast very favorably indeed with those shewn above. In the one case, we have, just about the same time (1854,) in the Districts of Cuttack, Pooree and Balasore, among a male population of say one million souls, 3085 schools, with 27,000 scholars, representing the unaided and self-directed efforts of the people themselves. While in the eight Districts of the N. W. P., among a male population of 4,272,000, we have 3469 schools with 36,884 scholars, representing not only the efforts of the people themselves, but the direct results of a very practical and successful Government scheme, worked by a full staff, and supported by a liberal assignment on the part of Government.

A similar comparison with educational statistics in Bengal, might or might not be equally satisfactory; but we think there is no room for discouragement in Orissa. There is a sufficiently

broad basis to work upon, a voluntary and self-sustained effort on the part of the people, sufficient to justify a larger share of that countenance and assistance from Government which has been extended to other parts of the country with what looks like an invidious partiality.

It is not to be denied that the education imparted in these 3,000 schools by these 3,000 indigenous school-masters, is, as in every other part of the country, of a most imperfect and unsatisfactory character, and does not extend in most cases beyond simple reading and writing, with the elementary rules of arithmetic. And the mode in which it is imparted is moreover not the best in the world. The schoolmasters, or *Qhodhans* are also themselves, imperfectly educated, according to European ideas. But the improvement of this national system of education, and this large body of indigenous schoolmasters, is just the grand object to which the efforts of Government should mainly be directed. These schools are the schools of the people, accessible to the means, and within the reach of most, having no prejudices or opposition to overcome—and these schoolmasters are the hereditary schoolmasters of the people, enjoying their respect and confidence, possessing, there is no doubt, a powerful though secret influence among them, which, evoked against any exclusive Government scheme of education, would for a long time present an effectual barrier against all improvement and success. In many cases, these men, are *Brahmins*, and, if we are not mistaken, in other *Naicks*, in some few perhaps *Mahantees*, all, more or less, wearing the sacred thread, the general referees in all matters of account among the villagers; not seldom they are the village doctors, possessing a voice in the arrangement of certain private domestic affairs; and generally speaking their position is such, that the opposition they could bring to bear, is not to be despised; while, on the other hand, if made friends to the cause of improved education, their influence would ensure it, if not absolute, yet comparative, success. The efforts of Government exerted through this medium, would not arouse the superstitious and ignorant prejudices of the people, while the natural effect of establishing independent Government schools over the country, and placing at their head masters with enviable salaries of ten and fifteen Rupees a month, would be to raise up a strong spirit of jealousy and consequent opposition. These well paid rivals would be regarded by the native schoolmasters as interlopers, wielding the ferule by right neither of caste nor of prescription and destined, if successful, to take the bread out of their mouths. Especially will this be so, where

the new men are Bengalees or foreigners, as is most frequently the case. The former are regarded with a certain degree of disgust and dislike by all orthodox Oryahs. It will not avail to argue the right or wrong of this prejudice, or, because in our estimation foolish and unjustifiable, to act as if it did not exist. There is no doubt that it does exist, and will operate to the detriment, if not the total failure, of any scheme which shall be forced on the people in disregard of it.

Now the general standard of education among the people, is so very low, that it does not seem at present the best policy to raise that standard *per saltum* to the comparatively high point apparently aimed at. We require first to place within reach of the masses of the people, a moderate standard of education, comprising the ability to read and write correctly, and a knowledge of the elementary rules of Arithmetic. To these attainments, which will have a practical bearing on their material affairs, we should wish to add a few ideas of Geography and History, some correct principles of morality, and a store of general information; which acquirements will tend to the enlargement of their minds, the improvement of their habits, and the correction of their ignorant prejudices. It would be far preferable to raise the masses to this standard, than to elevate a few only to a much higher one; and we think that the existing agency, the indigenous schools and schoolmasters, may be rendered quite adequate to this end. If these ideas be correct, it is manifestly impolitic to adopt any plan of general education, which shall not acknowledge the native Chatsalocs and Obodhans, as its basis, and their improvement and encouragement as its immediate object, with a trust, thus to reach the great aggregate of the population through a medium acknowledged and approved of by themselves, without arousing their superstitious fears, and prejudices.

We now proceed to apply the two principles above noted, to the outline of a plan of general education. We have said that example and assistance are what is required from Government, and that mainly in the due and judicious application of these principles, lies, in our opinion, the secret of success. It is not meant to be said that these principles are new ones, for they are at present acted on by Government. Model and other schools on approved plans, and far above comparison with any thing of the kind that is indigenous, have been established in the country, and thus the example as to the mode of imparting an improved education, its elements and results, besides the

incentive which the mere force of example supplies, have not been wanting. But how diffuse and weak have these efforts been! How perfectly impotent as regards the masses! And so with assistance. This has not been withheld; but in being for the most part restricted to the grant-in-aid system, has been insufficiently and unsuitably applied. In sketching the outlines of our scheme, we shall not recommend it because it possesses any abstract excellence, which in our judgment over-balances all others, because, for instance, it is, perhaps, best calculated to call forth and encourage independent action on the part of the people themselves—in itself a most important matter—or because it is the least expensive, or likely to be the most popular and acceptable. Under the circumstances, it is not the absolute perfection as a whole, or the abstract excellence of the plan, which should give it the preference, but its fitness and feasibility, qualities which will ensure the attainment of our end, and which should ensure it our support, although we may be conscious that it is not perfect, and is open to the objections of those, who would prefer theoretical to practical excellence. We cannot have a perfect scheme; one which shall at the same time be the most sound, comprehensive, and enlightened in principle, and the most practical and practicable.

In the first place then, the root of all improvement, and in our opinion the first step, lies in the creation of an improved and sufficient school literature in the Vernacular. In Bengal, the School Book Society, the Vernacular Translation Society and private enterprize, supply a large and abundant variety of school books in Bengali, good and cheap; so that there is no necessity to undertake there, what in Orissa Government must do, directly or indirectly, in this matter. We have, it may be said, a sufficient number and variety of books in Oryah to begin with, and no considerable immediate outlay seems necessary. The copy-right of the following books, belongs to Government.

1. An Elementary Grammar.
2. Niti Kotha, or fables.
3. Hitopodesh.
4. Nitibodh.
5. Geography.
6. Arithmetic.
7. Euclid.
8. Outlines of Geography.

Besides these, there are, a History of Orissa, Outlines of Natural Philosophy, a smaller Arithmetic and Grammar, and other school

books which, as having been published at the expense of Government, or the School Book Society, or under their patronage, would be available without objection. Put together, the whole would present a sufficiently numerous series to select from in commencing operations. These books might be greatly improved and curtailed; some would indeed require revision. But we have shewn that there is no want of rough material, and therefore no necessity for a large outlay in the initial preparation of a school literature. All that is required is that Government, or the School Book Society, should undertake the supplying of the books, and furnish the first out-lay of printing and publication, to be afterwards recovered by the sale of the books.

In passing, it may be remarked, that it has been the practice heretofore to print small editions of a work; thus necessarily, in order to avoid loss, having to fix the selling price at a much higher figure, than would otherwise be requisite. It seems also to be something like a practice to throw aside a work which has been approved, purchased and printed by Government, as soon as a first small edition has been exhausted and to adopt another work, because, it is supposed by a different judge to approach nearer to the standard of a school book, than its predecessor. This can hardly be considered judicious under the circumstances. It is quite true, that the Vernacular Oryah, sometime ago perfectly uncultivated, possessing neither grammar nor dictionary, has been of late undergoing a change, and we may say an improvement. Books, therefore, published ten or fifteen years ago, are now perhaps, considered to be inaccurate, unidiomatic, and susceptible of, and requiring, revision. But this is no sufficient reason why they should be totally abandoned; nor does it justify the delay and fresh outlay required for the publication of an entirely new series. If it be considered that there is a probability that an edition of 5000 copies of any school book, will be absorbed in, say, five years, it would be undoubtedly better to print one edition of that number, which would allow of a small selling rate per copy, rather than to have within the same period small editions of two or three works of the kind, the first cost of which would be more than double that of the larger one, and in consequence require a higher selling rate, and so far interfere with their circulation and usefulness. This is a point that has been disregarded heretofore, and it is not possible to say what share the disregard may have had in rendering the efforts of Government to improve the people's education, futile. If every Deputy Inspector, and Inspector is at liberty to

exercise and act on his own discretion, and undo what his predecessor has done in this respect, there is an end to the matter : our school literature will always be in a transition, but not necessarily, in an improving state. However, we require the introduction of good and suitable books into the indigenous schools ; and this cannot be done, unless the selling prices of the books, can be brought within the very limited means of the people. This is feasible by having large editions of suitable works. By way of illustration we give the following statement.

A small edition of Bishnoo Sharina's *Hitopadesh*, 12mo. was printed by Government at the Cuttack Press. It cost Rs 367 ; so that in order to avoid loss, the selling price had to be fixed at 13 annas per copy ; a price which, as far as the indigenous schools were concerned, was quite prohibitory. Now suppose, 5000 copies had been printed, the cost of this larger edition would not have been much more than 1000 Rs and the selling rate could then have been fixed at a trifle over 3 annas per copy. The work would have been sold rapidly.

Let us then have large editions of a judiciously selected variety of school books, printed in two or more separate parts, so as to make each successive demand on the slender pockets of the parents and friends of the school boys for the purchase of school books, as light as may be. The books will sell in due time, if only adopted by the Education Department. The main point, as we reiterate, is to bring out the books in such a manner, as to ensure their being within the reach and means of the great mass of humble village people, else they must fail in half their mission. The pride of both printer and publisher—we have known it to stand in the way—must be held in abeyance ; and they must consent to produce books, on rough and coarse material, if necessary, without expensive bindings and cloth cover, so that the primary object of cheapness may be attained.

In this respect, then, is the aid of Government called for ; and without it, no school can flourish, and no general scheme, having for its object the education of the masses, can in any degree succeed. A great deal more might be said about school books, more especially as regards their character, but want of space forbids our enlarging on the subject. One point may be merely noticed, and that is, that while the Bible, the perfect code of duty and morality, is excluded from all native schools, we give them no substitute. This surely ought to be done. An unobjectionable substitute might be produced, and along with *Geographies* and *Grammars* should be placed in the hands of the rising native generation.

We now proceed to sketch the outlines of a plan of education.

I. Establish at each of the head quarters of the three Districts of this Division, a Vernacular School, with the following staff and allowances:—

Head Pundit	25
2nd Ditto	10
English Abecedarian master ...	20
Chowkeydan	4
Contingences	5
Prize allowance	5
5 Scholarships at 5 each	25
5 Ditto at 3 ditto	15

Total Rupees 109 per month.

Government have been pleased for many years past to maintain, at no trifling cost, what are called Anglo-Vernacular Zillah Schools. The 'Vernacular' may be omitted from the designation, for English is what is actually taught, the maintenance of a Pundit, or Vernacular teacher, being but a disguise, and a very poor one, and the post all but a sinecure. We are not of those who either condemn this class of Schools as totally useless, or uphold them as a powerful means for the improvement and education of the people. They have been a long time in existence, and we think, have failed to produce results in any degree commensurate with the large outlay of public money that has been made on them. They have given us a class of less than half educated writers and ministerial officers, and must notwithstanding their short comings, have diffused a mental leaven of improvement and intelligence among the restricted sections of the community that have availed themselves of their advantages. But they have not influenced the masses, and their staunchest supporters must admit, that they have yielded no results, which can be regarded equivalent for the total neglect of the Vernacular education of the millions, who meantime have been left in the outer darkness of their ignorance and superstition. We are by no means advocates for the abandonment of these schools. We are grateful for the modicum of good they have achieved, and anticipate an enlargement of their sphere of usefulness; but we would make them subordinate though important parts, of the scheme of which they have hitherto constituted almost the sum total. Our idea is that the state conscience has accepted the maintenance of these zillah schools as a salve for

the neglect of those more general and comprehensive, and therefore costly, measures which are imperatively demanded for the lower and middle classes of its Indian subjects. There can be no objection to the Government educating the aristocracy of the country, whom it has itself made; the upper ten thousand, who have benefitted so much under the fostering care of the State. Let these now, however, pay for their own education, as they well can do, and handsomely too. Government has done its duty amply towards them. It has lavished its favors on them; it has maintained High Schools and Colleges for their general education, and has now founded Universities to afford the means of attaining, and to confer the high distinctions accorded to, ripe Scholarship. It has done enough in all fairness, and may now, having raised what we have called the upper ten thousand into a position from which their means and their self-interest will prevent their receding, it may safely withdraw by degrees, in a large measure, from the support of so exclusive a system, and devote its attention and educational funds to the millions. These are to be reached through the Vernacular only. For with all deference to the high authorities who have inveighed against education by means of the Vernacular, we consider it a *sine qua non*. If ever the millions of India are to be taught self-government; if ever they are to be imbued with the moral and social principles of an enlightened civilization; and what is all important in a religious point of view, if ever they are to be brought to acknowledge the folly and wickedness of idolatry, and to accept the doctrines and duties of the Christian faith, it must surely be through the medium of their own mother tongue. And these are among the ends of education, and may not be sacrificed, without a failure in duty, to the interested outcry for a superficial knowledge of the English tongue, raised by those who have an eye to the share of the loaves and fishes which such a knowledge is likely to secure.

With these views we suggest the establishment of Vernacular Schools of a superior class at each of the centres of population. It comports as much with the duty of Government to give the inhabitants of the towns the chances and advantages of a proper education as those of the rural villages. In these centres are accumulated as many inhabitants as we should find in any eighty or a hundred villages, and they are as badly off for good schools as the latter, while the temptations and idleness of a town life are more injurious and mischievous to town children, than any thing that is to be found in the quiet and more

simple and, in respect to daily employment, more active life of a village community. On the other hand, people living in the towns have a much better perception of the advantages of education for their children, and are inclined more readily to avail themselves of any opportunities that may be placed within their reach. At the same time as a measure in consonance with the views expressed above, we would remodel the so called Anglo-Vernacular Schools, now existing at the head quarters of each district, double or treble the present fees, and re-cast the constitution of these institutions, so that the following results may be secured:—the removal of the temptation, which is now held out by low fees and a low standard, to obtain the merest smattering of English to the total neglect of education of any other kind or in any other way; the reduction of the excessive cost to Government of a boy's English education so as to set free the public funds, which by rights should be expended on a more public and general scheme, and are required for that purpose; the elevation of the standard of education, so that the English instruction given may be somewhat less crude and contemptible, than it now must in most cases be confessed to be.

We cannot, however, sympathize with the outcry for Normal Schools, at least to such an extent as to persuade ourselves that all endeavour to educate and improve the education of the masses, is as so much strength wasted; unless we have specially trained teachers to place over the schools established. Normal School teachers are very well in their way, and much to be desired. But surely it is not meant to be said, that we should have normal schools teachers for our village Chatsulees? Unless the Government find the pay, such teachers will never be at the head of village schools; so that their sphere of usefulness, is limited to superior schools, either Government or private. The want of normal schools, and normal school teachers, is then no sufficient reason—none at all in fact—why no efforts should be made with such agency as is available, be it indifferent, or bad even; or why the full tide of Government aid and endeavour should be checked. 'The people are,' in scripture phrase, 'perishing for lack of knowledge,' while Government propose to rear scientifically trained teachers, by a process necessarily so slow that years must elapse before they will be ready. The growing desire for education will create the demand for improved teachers, just as it has done in other countries. In other words, the latter will follow the former, as its consequence and result, and not precede it as its cause. The

contrary way of thinking, however, is in keeping with the straining after perfection, and the lofty standard that has marked the education policy of the Government from the beginning. They despise the day of small things, condemn the humble efforts of an impoverished and belated people, and abuse, as incorrigible blockheads and impracticable obstinatives, the hereditary schoolmasters of the people, who nevertheless hold the position, and exercise the influence, which are just the position and influence that Government seek to fill and direct. There are numbers of schools and schoolmasters; but because they are imperfect, they are tabooed and neglected, and Government set themselves to constitute an entirely new agency, about which no one would quarrel were not the pressing interests of the people, and their strong prejudices, points for consideration in the question.

We have then no objection to English schools and Normal schools. But our advice is that thested be not allowed to starve, while the grass is growing. Let not these otherwise desirable institutions stint the funds and energies that should be devoted to the broader, the more imperative demands of popular education and advancement, much less absorb them; and we should be specially careful how the spurious outcry for English—not English literature and science, nor English ethics—but the mechanical power to read and write that language, be it never so imperfectly and ungrammatically, is gratified, at the sacrifice of the more important interests that the State is supposed to have at heart, in a scheme of public education.

The sites of the Vernacular Schools we have proposed for the chief town in each Zillah, should be judiciously selected, and the masters should be natives of the province, the best that can be had. A fee of 4 annas a head per month, and in the lowest class or classes 2 annas, might be safely levied. The curriculum of studies must, for this superior class of schools, be higher than can just at present be furnished from the existing school-book series; but this is a want which it may not be difficult in a short time to supply, by the translation of standard works, either from the English or Bengali. We have proposed an English master to teach the rudiments of that language to the highest class or classes, but always in subordination to the more immediate objects of the institutions. We have provided for thirty scholarships in the three Zillah schools, which should be invariably filled from the pergunnah schools, to which we shall come presently. The scholarship boys might be allowed a preferential claim to the post of

pergunnah schoolmaster. More than this it is at present impossible to accomplish. We can no more provide all the indigenous rural schools with masters educated in our more expensive institutions, a complete education in which almost implies means and a position in the social grade above the average, than we can ever supply normal school teachers. A rural schoolmaster earns, in one way or another, from three to four rupees a month; and he is not underpaid, if the poverty-stricken condition of the people be taken into consideration. But boys whom we have passed through our pergunnah schools, and then taught in our zillah schools, cannot be expected to content themselves with so meager a livelihood as that afforded in the position of a village schoolmaster. In process of time, however, and without any violent displacement or revolution, we may be able to supply many rural schools with masters educated in pergunnah schools; the sons and natural successors of the old Obodhans, or Goo-roomohashoys as they are called in Bengal. When this step is gained, half the battle of popular education will have been fought out, and the improvement and progress of the education of the rural population would be measured by, and depend upon, the improvement and progress of the higher Government institutions, instead of the two, as now, being dis severed links of the same chain, or disjointed members of the same body educational, without the smallest sympathy, the one with the other.

The total expense of the three zillah schools to be established and maintained at the cost of Government, would be 327 Rupees per month, or 392½ Rupees per annum; while the fees, which might most properly be made available as a set off against this expenditure, will, it may be reasonably calculated, amount to from one fourth to one third of the same.

II. Establish at the most centrally situated, or most populous village in each pergunnah, a vernacular school, with the following scale of establishment and allowances:—

Head Pundit...	...	...	10	0	0
Boy, as an attendant. ...	...	...	1	8	0
Contingences and prizes	..	...	3	8	0
Three scholarships at 2-8	...	..	7	8	0
Three ditto at 2	...	..	6	0	0

Total Rupees 28 8 0

where the number of boys attending a pergunnah school exceeded 30, we would add an

Assistant Pundit 6 0 0

The scholarships in these pergunnah schools should be awarded to the best boys of the aided rural schools, or, if on consideration it seemed advisable, might be set apart exclusively for the sons of aided rural schoolmasters. These pergunnah schools would require the closest attention and supervision; and for these purposes, a system of circles of visitation would be required, which should be made to embrace aided and inspected rural schools. The fee in pergunnah schools, might be fixed at one anna six pie, or one anna only per month. Simplicity and inexpensiveness should be aimed at in the conduct of these schools. The supply of books, while abundant, should consist of cheap works; and every lad be required, or induced to possess copies. The pundit might be custodian, and be allowed a commission on the monthly sales. We would endeavour to abolish the practice of scribbling or ciphering on the floor, which, though a method practical enough, is calculated to admit imperfections into the instruction so communitated, and is objectionable in other respects also. An abundance of cheap slates and black boards would be excellent substitutes.

We are aware that Vernacular Schools were established at numerous places in the Lower Provinces some years ago, and were at last abandoned as entire failures. But this was the result of an almost entire want of proper inspection. The pundits were allowed to do just as they liked, and like all Asiatics, who have a singular lack of any thing like a sense of duty, lapsed, in the absence of close and careful supervision, into the uttermost indifference and idleness, as far as their immediate charges were concerned. Fictitious returns saved them an immense deal of trouble, and shielded them from censure, and when any special effort was necessary, a few pice judiciously distributed purchased the temporary attendance of a decent number of boys. The system of course broke down to the surprise of no one. But now that there is a special bureau for the direction and management of educational affairs, with Inspectors, and Sub-Inspectors, native schools will be, or ought to be, efficiently supervised, and the pundits no longer left to their own devices and proclivities. Frequent visitations and strict superintendence will keep them to their duties; while rewards and advancement will provide some stimulus for their pupils.

It is impossible here to enter more minutely into detail; and

we shall content ourselves with affording an approximation to the cost of Pergunnah Schools for three districts of the province. Some of the pergunnahs of the division, are so small in extent, that it would not be necessary to have a school in each. Say that schools were established in 100 pergunnahs. The total cost would be at 28-8 for each school, Rupees 2,850 per month, or per annum 34,200. The fees levied in these Schools would not be of much avail as a set off against this expenditure. Their aggregate would, however, afford an ample fund for additional pundits, where such were required. The above would be the maximum cost to Government; but the punditships of these schools would advantageously be divided into three classes, on ten, eight, and six Rupees a month; so that the sum total is susceptible of some diminution on this account, and might on the average be stated at 2,670 per mensem, or 32,040 per annum.

III. Let all the rural schools or *chatsulees*, as far as can be done without excessive inconvenience, be visited, and a certain number within the limits of each pergunnah, say as many as six in some, and three in others, be selected by the Deputy Inspector or Inspector. The points for consideration in the selection, should be locality in a populous village or neighbourhood; the existence of a permanent school house or place which would afford accommodation as such; the duration of the school; the number of pupils; the character of the Obodhan or teacher; his willingness to submit to visits from the Deputy Inspector, and to use books that would be supplied him for his school. There are other minor points, which do not need specification. Let the Obodhans or teachers of all such selected schools be paid by Government monthly one or one rupee and a half, and in special cases, two rupees, as a grant-in-aid.

This may appear a trivial measure; but, if we are not much mistaken, it would be regarded otherwise by those mainly interested. A man who earns from two to four Rupees per month, as the little all on which he must subsist, would not ordinarily despise a clear and certain addition of one, or one rupee and a half, to his slender pittance. Living well, as things go in the Mofussil, on two annas a day, this addition would find him food for a week; and however insignificant it may sound or appear, it would have its weight with the recipients. We may calculate that about 500 rural schools would be aided in this inexpensive way. The aid so given to so many schools might very properly be regarded in the light of a retaining fee, in return for which we should, in the generality of cases, be enabled to direct the

influence of the old Obodhans, to lay their overt antagonism, to instil a few ideas of progress into their heads, to place some books in their hands, and through them in the hands of their pupils, to improve the manner and material of their instructions, to supply a stimulus to their rude pupils, to remove some prejudices, and generally to encourage, foster and strengthen any desire that might exist for knowledge and information. And when the old race of Obodhans have retired from their spheres of labor, we should be in the best position to replace them gradually, in many cases with teachers educated in our own schools, who though not deep in the mysteries of scientific teaching, would still be great improvements on their predecessors, and continue to improve with the lapse of time. If we assume then that 500 indigenous rural schools be aided in the manner above indicated, the monthly expense will be say 700, or per annum Rupees 8,400.

We would not recommend any peremptory interference with the Obodhans, and we would require no periodical returns. Visitation by Officials of the Department would of course be made a necessary condition of the grant-in-aid; and such visitation frequently repeated, in a friendly and conciliatory manner, would secure all that is required. A visitor would take down the statistics and condition of the schools, and should every month submit a tabulated statement exhibiting the results of his observation. Here we may also add that if visitors and Deputy Inspectors have tact, and display a friendly spirit and manner, it will not be a matter of much difficulty, while it should and must be an aim of duty, to visit and improve rural schools other than those aided by Government. Of course the same amount of control and influence over them, as may be exercised over aided schools, cannot be expected. But there appears no reasonable obstacle to the attaining a degree of influence, which will be for good only. Example is catching. The spirit of competition and improvement, will be abroad in the land. We are indeed afraid to suggest a *quid pro quo* with regard to these non-aided schools, in return for which our visitation and inspection would be so much better tolerated; for the little bill that we shall have to present will, we fear, be considered sufficiently formidable already.

IV. In order to complete the scheme, it would be necessary that there should be visitors of circles; say three in the Cuttack, and two in each of the other Districts, making seven circle visitors, a properly qualified Native Oryah Deputy Inspector for each

Zillah, and an Inspector of Schools, with head-quarters in the District, and not at Calcutta. The Visitors and Deputy Inspectors should, before every thing else, be natives of the province, and not Bengalees; and the first qualification of the Inspector should be a thorough practical acquaintance with the Vernacular of the District. It is a solemn farce to give us a local head, who besides having no local habitation, cannot personally communicate with the teachers of his schools. The educational machine, like every other machine, requires constant practical supervision by a responsible and capable head; not a supervision which contents itself with reports and statements only. All efforts for the advancement of popular education are not unlikely to fail as inevitably as those that have been made heretofore, if every thing is left to the Pundits and visitors, or even Deputy Inspectors, or what is tantamount to the same thing, if we have an Inspector who knows not his workmen and his material, and his ground too, and is unable freely and unhesitatingly to communicate his ideas, wishes and advice directly to those whom it is his duty most to guide and influence. In every case, as far as practicable, visitors and Deputy Inspectors should be natives of the province. We really do not want Bengalee scholars, who are always hankering after appointments in their own province, and who find no sympathy or companionship in the Mofussil, where their duty lies, and who rouse not a little dislike and opposition among a population peculiarly prejudiced, by constant references to and comparisons with things as they are in the more favored land of Gaur. The entire establishment of visitors and Deputy Inspectors, would not cost more than 550 rupees a month—namely at an average of thirty rupees a month for visitors, and eighty rupees for Deputy Inspectors, with small, though sufficient, travelling allowances.

We have thus sketched in outline a somewhat comprehensive scheme, more so at least than any that has yet been tried and one that embraces a good proportion of the existing rural schools of the people. There is, however, for the present a deficiency or disproportionateness in it, in the provision made for aiding the indigenous schools. These aided schools form the links uniting the people's efforts with those made by Government on their behalf, and the better aided and more numerous they can be made, the closer and more beneficial will be the connection. Any extension of the scheme should therefore be in this direction. We thus admit that the provision we have made for the aiding of rural schools is at present rather insufficient in proportion

to the comparative importance of that object; but that provision is susceptible of gradual and great extension, which can be effected at any time, when justified by success, or made possible by the growth of funds, which do not now exist. Next in the grade of importance are the Pergunnah Schools. They will afford living and practical example to village schools, schoolmasters and people. Ere long they will furnish better Obodhans than now exist; they will hold out a little career to many village school boys, who otherwise would have to content themselves with the imperfect and extremely limited instruction that their present masters are capable of affording, or to neglect even that from want of a stimulus, an object of ambition. Besides these and other advantages, these Pergunnah Schools would directly educate a proportion of the school-going population, namely, from two to three thousand boys. And finally of great importance are the proposed zillah schools. It does not speak well for the Education Department, that in the great centres of population, in each of which from thirty to forty thousand native inhabitants are to be found, possessing a greater desire for the education of their rising progeny, and on the whole undoubtedly much better able to pay for the advantage, there exist no purely Vernacular (Oryah) schools above the grade of ordinary *chulsalees* or village schools. Our plan supplies this deficiency, and if judiciously carried out, would, we have every reason to believe, prove most satisfactory.

We shall content ourselves with two more paragraphs. First as to the aggregate expenditure required by such a scheme in its completeness:—

3	Zillah Schools per	mensm	327	per annum	3,924
100	Pergunnah do.	do.	2,850	do.	34,200
500	Aided village do.	do.	700	do.	8,400
7	Circle visitors	do.	245	do.	2,940
3	Zillah Inspectors	do.	270	do.	3,240
	Books gratis	do.	50	do.	600

Total Rupees do. 4,412 do. 53,304

By fees, and a reduction of expenditure in the present Anglo-Vernacular Zillah Schools, the total cost might be reduced, in round numbers, to half a lakh of rupees. It would of course be confined to that tract of the country, which is called the Mogulbundee, or settled part, which, if we are to accept the census of 1854, the latest that has been made, contains a population of

2,550,000. This, however is, as we have already remarked, probably an exaggerated estimate, which might, with approximate accuracy, be converted into 2,000,000. The expenditure of the half lakh would therefore be at the rate of about 4½ pie a head per annum.

In the second place we have to indicate the source from which the public funds may hereafter be greatly relieved of the burden of this expenditure. The Mogulbundee of Orissa, is a temporarily settled tract, the current settlement expiring in 1867. The Mofussil Jumma, or gross land Revenue, may be assumed as twenty lakhs of Rupees. Judging from the results of the renewal of settlements of isolated estates within the Mogulbundee, or adjacent to it, which, having had shorter terms to run than the general settlements of the Province, have been since made afresh, and judging also from the great enhancement that has of late years taken place in the value of land and its produce, it is not too much to predict, indeed it seems well within probability that the resettlement of the province would, in 1867, yield a land revenue of from twenty-two to twenty-four lakhs of Rupees. Is there any reasonable objection why a slight cess should not be added to this jumma, for educational purposes? Two per cent would yield from 4½ to 18,000 Rupees; and this would go a long way towards the aggregate outlay on education. Other sources of Revenue, annually on the increase, may be supposed for the nonce to supply the balance. This principle of levying on, or adding to, the jumma of the land at settlement, such a cess as the above, is one that has been acknowledged, if not acted on, by Government, and to our apprehension is most equitable and just in the abstract, and would effect so light an enhancement of the rent-payers' burdens, as to be hardly appreciable. In the case of this Province, the Government are fettered by no unwary promises as in permanently settled estates, and ere they promulgate any, we think it would be worth the while to take the matter into consideration. Half a lakh of Rupees thus contributed by the people themselves, with any further allowance from Imperial funds, which it might please Government to make, would, or should, do a great deal for the cause of popular education in this long neglected, but promising province of British India.

Ann. IV.—1. *History of the Military Transactions of the British Nation in Indostan from the year 1745.* By Robert Orme, F. A. S. Madras: re-printed by Pharos & Co.

2.—*Public Records.*

WE wonder how many people have read through Orme's Hindostan. Macaulay, indeed, has pronounced that old world author to be inferior to no English historian in style and power of painting; but then he is oppressive from the load of detail. His work is not a history properly so called, such as Macaulay himself would have written, but a graphic report by 'our own correspondent.' A hundred years hence, people will prefer to read the annals of the Crimean War summed up into a single chapter by some future Gibbon, rather than labour through Dr. Russell's picturesque but long-winded volumes. In the same way the present generation will probably prefer reading a concise narrative of the course of events in early Madras history, to wading through the mass of facts recorded by old Orme.

But there is another circumstance which interferes with the popularity of Orme's work. The period to which it refers is extremely limited, extending over sixteen years only, namely, from the year preceding the French occupation of Madras in 1746 down to the triumphant capture of Pondicherry in 1761. Of the previous history of India his knowledge was very slight and untrustworthy; and the later history he never attempted. Then, again, the bulk of his work is chiefly devoted to the progress of affairs in the Madras Presidency. He did indeed spend some years of his early life in Calcutta, and thus has incorporated in his annals a narrative of events in Bengal both before and after the Black Hole tragedy in 1756. But throughout the period to which he restricted himself, Madras stood prominently forward in British India; whilst during a large portion of that period he was himself a member of the Council at Fort St. George. In Madras, therefore, his very minuteness of detail has served to perpetuate his memory and concentrate his fame. His work is a treasury of authentic stories of the early deeds of the Madras Army, and thus has been for generations the delight of every

camp and cantonment throughout the Presidency, which could boast the possession of volumes which up to the moment of the present republication have been both costly and rare. With Orme in hand any Madras resident can point out the spot where Mafuze Khan was beaten by the French at St. Thomé, and where Count Lally planted the guns which were to batter down the walls of Fort St. George. Moreover the topographical knowledge of Orme extended to almost every part of Southern India, which was at that time known to the European. Mysore was indeed a *terra incognita*; but with all the famous localities between the eastern Ghats and the sea, he seems to have been thoroughly familiar. The old camp at Trichinopoly, the sacred island of Seringham, the broken ramparts at Arcot, the great pagoda at Conjeveram, the precipitous rock at Ginjee, the blood-stained fort at Vellore, and even the remains of Dutch glory at Pulicat and Sadras, are all invested with the liveliest interest by the graphic pen of the old antiquarian.

Having said thus much for Orme we dismiss him without further ceremony. Recent researches in the Madras records have thrown a new light upon the early progress of British settlements in this country; and accordingly by their aid we purpose to sketch the early history of Madras from the foundation of Fort St. George down to the period when the annals of the Presidency begin to connect themselves with those of India, a date which coincides with the close of the period treated by our historian.

Early in the seventeenth century, whilst James I was studying Hebrew at Hampton Court, the English and Dutch were trying to establish fortified factories on the Coast of Coromandel, in order to exchange the cloths of that locality for the pepper and spices of Java and the Moluccas. The Dutch came first and erected a great square massive Fort at Pulicat, about 30 miles to the north of the present site of Madras, and another at Sadras, about 30 miles to the south of that site. At Pulicat scarcely a vestige is to be found of the Dutch of the olden time, beyond a quaint burying ground, a street lined with trees, a few Dutch houses, and a few heavy masses of half buried brick work, which serve to show where the Fort once stood. But at Sadras the destruction has been but partial, and the hand of time has dealt lightly with the ruins. The watch towers and stair cases, the Governor's house and the Officers quarters, the barracks, the cells for prisoners, the magazines, the store rooms, the ramparts,—all are still there, showing the heavy brick work, and neatness and

primness of style, for which the Dutch were so celebrated.* At this early epoch the English tried to settle at Pulicat along

* We know of no place in India so redolent of old Dutch life in India, as Sadras. There the pilgrim may wander, not only through the old Fort; but through the Governor's official residence, now a traveller's bungalow, and above all, through the ruins of Mylin Heer's magnificent garden house; and at last he will almost fancy that the great merchant princes of the seventeenth century have but just vanished away, with their huge pipes, their fiery schnaps, and their stately vrows. The following extracts from some notes taken on the spot about a year ago by the writer of the present article may be not without interest.

"The Fort at Sadras must have been a very imposing place a century and a half ago; and enough of the fortifications are still standing, to show the great strength of the masonry, as well as the arrangement and plan of the place. The visitor can still walk along the elevated terraces, and examine the magazines, the store rooms, the treasury, the barracks, and the terrible dungeons. He may still enter the residence of the Commandant, and even ascend to the watch towers and guard-rooms. But there, in a spot once an arena of constant business and bustle, all is silent and desolate. The purple convolvulus luxuriates amongst the ruins, and nothing is heard but the solemn roar of the waves, which dash upon the sandy beach unchanging and unchangeable.

"The Fort was originally a great square, or rather a parallelogram, rising up to a considerable height on a sandy eminence within three hundred yards of the sea. It seems to have been about six hundred feet long, and four hundred feet broad. All round the Fort there was a double line of wall, or rather two walls, with the space between them filled up with earth so as to form a magnificent terrace walk; and each corner of this large fortified parallelogram was formed by a strong bastion. Within the Fort on the land side, was the line of barracks protected by the massive walls. On the sea side were the watch towers, and quarters of the Officers of the garrison. On either side is a well constructed bomb proof magazine. In the south-west corner is the old burial ground, with its massive tombstones of sculptured granite, where many a troubled and aching bosom found a resting place at last. The entrance to the Fort is composed of a beautiful and strongly built archway, surmounted by a tower; and near it is a large well, sufficient to have furnished a continuous and plentiful supply of water to the whole garrison. Such was the Fort of Sadras in the olden time, when the Dutch merchants lorded it over their little territories, and treated all other Europeans with the utmost suspicion and disdain. Rising abruptly from the sea, it must have been seen from distant ships miles and miles away. At the same time the unhealthiness arising from the height of the walls must have been greatly tempered by the glorious sea breeze, which rushed along the terraces and through the watch towers and guard rooms, bringing to the weary denizens of the Fort all the freshness and coolness of the radiant waves. Once more we may fancy we hear the gun announcing the arrival of another ship in the offing, and see in our mind's eye the stolid Dutchmen, cut off from their native land, eagerly drinking in the news of the landing of their own William of Orange on the shores of Great Britain, or listening anxiously to the story of his mighty and desperate struggle

with the Dutch, but the arrangement between such commercial rivals was altogether impracticable. They then tried a neighbouring locality, but it did not answer. At last in 1639, the

against the overwhelming power of Louis. Once more we may see a trembling harkāra hurrying in with the terrible news that the Mahrattas are once again plundering and ravaging the Carnatic; whilst the sudden clanging of the midnight alarm bell is summoning all hands to get in the goods from the town, to sieve out ammunition, or to man the walls. Once more we may see all the agitation and bustle of that quaint old Fort, from the stately Governor of the settlement, to the young boy in the counting house, or the emaciated prisoner in the hot and feverish dungeon; whilst the watchmen of the night are straining their eyes from every tower to catch the first glimpse of those portentous fires which generally heralded the approach of that terrible and savage foe. But all is silent now. Eighty years have passed away since that strange old settlement fell into British hands. That too was a stirring time. The Tigers of Mysore were desolating the Carnatic up to the very walls of Fort St. George, when a prompt old English General mined the Fort in all directions lest it should fall into the hands of Hyder, and left little beyond the cracked and shattered walls in the state they are standing now.

"One peculiarity of the old Dutch Fort at Sadras is so illustrative of the national character, that it must not be passed unnoticed. In all directions we see manifestations of that peculiar squareness, neatness, primness of design, which gives to the whole group of buildings and surrounding walls almost the appearance of a neat model of something still larger and grander. Everything seems to have been ordered, regulated, and cut by rule and square, from the staircases and terraces to the watchtowers and guard-rooms. But this same love of order and rule rendered the Dutch remorseless and inexorable towards prisoners and deserters. The wretched victims were consigned to horrible dungeons, rarely to quit them except to enter their graves. Delinquents and defaulters were treated with unsparring severity amounting almost to ferocity; and we may remark that, next to the Inquisition, few administrations were more relentless and cruel than those of the Dutch Governors in India and Batavia.

"A hundred yards inland from the Fort stands what was once the town house or official residence of the Dutch Governor. It consists of one ample hall, with rooms on either side, and a long spacious verandah in front. This building is also interesting to the visitor, inasmuch as at present it forms the traveller's bungalow; and we may add, for the information of tourists, that free accommodation may be obtained at all times, only the traveller must take his own provisions and mattresses. The most curious feature connected with this building is the quaint old garden. An English garden in India disappears entirely in a very few years, if no attention is paid to the cultivation; but though nearly a century has passed away since this Dutch garden was left to itself, the ruins still remain. Every fancifully cut bed, and straight prim path, was lined with brick covered with white chunam; and to this day the lines still remain to indicate the beds and pathways of olden time. There too are the solid seats, the massive walls, the neat tank with little channels for watering the beds, and the luxuriant remains of trees and flowers which still struggle against the thick overgrowth of prickly pear.

year before the sitting of the Long Parliament, a Mr. Day proceeded to the Portuguese settlement at St. Thomé, where he found unexpected encouragement from both the Portuguese authorities and the native powers. A little strip of land along the shore, about five miles long and one mile inland, was obtained from the Rajah of Chandragheri on payment of an annual rent of 1200 pagodas;* and an oblong fort facing the sea was constructed without delay, and named after the patron Saint of England,—Fort St. George.

The state of the country round about the little Fort would be a marvel to the present generation. The Mussulmans had not as yet pressed so far to the south, whilst even the Mussulman kings of the Dekhan (the countries lying between the Nerbudda and the Kristna) were as yet independent of the Great Mogul. The Rajah of Chandragheri was a Hindoo,—the representative of the once famous Native sovereignty of Bijjanagur, the last of the great Hindoo kingdoms, which had been overturned about eighty years previously by a confederacy of the Mussulman

“But this Town House and grave looking garden are dwarfed into insignificance by the side of the magnificent Garden House, which once rose in stately grandeur nearly half a mile inland, and where the Dutchmen of old displayed their taste for flowers and canals to their heart's content. There was once the Dutchman's bean ideal of luxury and retired dignity. A quaint but splendid edifice, strong as a castle, but rendered light and elegant by its graceful towers, elevated terraces, and curious arches. The gardens spreading over four acres were all cut up into straight walks, mathematical beds, and endless water channels. Trees and flowers all were luxuriant but trim; and the deep waters of the lake-like tanks, were as solemn and imperturbable as a Dutch canal. In a word, all the wonders of a residence at the Hague were reproduced in that sandy plain. The indications of the past are still so fresh, that the imagination easily calls up a picture of the days that have been. The walks once more alive with young Dutch traders, solemn as judges; and with their young wives, stately, prim and blooming as the precisely cut beds of flowers. From yonder tower a starched lady in ruffles may have been looking down upon the yellow lotus flowers in that deep lake; or watching the Governor and Council sitting in that small embowered island, with the eternal schnaps and coffee and stupendous pipe. All is intensely Dutch, and yet here and there glides a mild Hindoo, or a jewelled and bangled Ayah. But all is a dream of the past. Silence and desolation are the only denizens now; and nature alone luxuriates amongst the ruins.”

* The original grant on gold leaf was preserved for more than a century, but appears to have been lost during the French occupation of the Fort, 1746-48.

kings of the Dekhan.* Seven years after the foundation of Fort St. George, the poor Rajah of Chandragheri was compelled to fly before the advance of the Mussulmans, and to take refuge in Mysore, leaving his territory in the Carnatic, inclusive of the English settlement, in possession of the Mussulman king of Golconda, the modern Hyderabad.

Meantime the English at Fort St. George began buying up cottons and muslins, and selling looking glasses, knives, lead, and crimson and green cloths after their usual fashion. To the north of the Fort sprung up a large Native village of mud and bamboo, which formed the nucleus of the modern Black town. Immediately to the south was a little fishing village, where the inhabitants had been fishing and making nets since the days of Rama, and where they are fishing and making nets still, just as they did in days of yore, and utterly regardless of the world around. Further to the south, about three or four miles from the Fort, was the decaying Portuguese settlement of St. Thomé; whilst inland beyond the English territory were groups of native villages, which still give their names to the now fashionable quarters of the modern city of Madras. When the Rajah of Chandragheri fled into exile, the English obtained a fresh lease from the Shah of Golconda on the old terms of 1200 pagodas per annum; and also kept a Brahmin vakeel at the court, who transacted all the business, and sent them all the news.

The interior of the Fort was arranged in a strictly commercial style. There were some twenty soldiers, and a staff of civilians in the old fashioned grades of apprentices, writers, factors, and merchants. There was also a governor and a chaplain. All the

* The old Hindoo empire of Bijjanagur, extended during the fifteenth century over the greater part of Southern India, and thus nearly corresponded to the present limits of the Madras Presidency. Its metropolis on the river Toombuddra was literally constructed of granite of the cyclopean style of masonry; and to this day the ruins are said to be the finest in all India. There is a continued succession of streets, intersected by aqueducts and paved with granite, for a distance of three miles; whilst the temples, and other buildings public and private, are on a colossal scale and of the purest style of Hindoo architecture. The extent and grandeur of this city of the dead, are sufficient to indicate the greatness of the old Hindoo sovereignties before the advent of the Mussulmans. The Forts at Vellore and Chandragheri were built by the Bijjanagur Rajahs. Ram Rajah the last ruler was defeated in 1664 on the plains of Tellicota by a confederacy of the four Mussulman Shahs of Ahmednugur, Bejapoor, Golconda, and Beeder; and until within a comparatively recent period his head was preserved in the city of Bejapoor.

civilians, from the youngest apprentice fresh from Christ's Hospital up to the governor himself, attended morning and evening prayers daily, with two sermons on Sundays, and something extra on Wednesdays. The Directors moreover supplied the Fort liberally with Bibles and Catechisms, and a copy of the five folio volumes of Poole's Synopsis for light reading. The scale of salaries was somewhat limited; apprentices only getting £5 a year, the chaplain £100, members of council £100, and the governor £300; but then considerable fortunes could be made by private trading. The entire establishment, excepting the soldiers, took their meals together, so that board and lodging were furnished by the Directors in addition to the pay. The whole English population of the place varied from a hundred to a hundred and fifty souls, according to the number of soldiers, which varied with the times or rather with the fears of the Directors at home. A number of native peons were also taken into military service, and armed with swords, bucklers, bows and arrows, and other primitive weapons of the country. Morals were at a low ebb of course. Drunkenness and dicing were the great vices of the time; whilst both soldiers and civilians naturally inclined towards the women of the country, especially towards the Popish Portuguese women of St. Thomé. Sometimes they desired marriage, but this the chaplain resolutely refused to perform, unless the women solemnly renounced Popery, and promised to attend the Protestant chapel and profit by his teaching.*

* Although drunkenness, duelling, gambling, and licentiousness were only too common, the strictest rules were laid down for preserving sobriety and morality. Sir William Langhorne in 1678 issued express orders,—and certainly his views were liberal,—that no person was to be allowed to drink above half a pint of arrack or brandy and one quart of wine at a time, under a penalty of one pagoda upon the housekeeper that supplied it, and 12 fanams (about a rupee) upon every guest that had exceeded that modest allowance. Drunkenness was to be punished by a fine or the stocks. All persons addicted in any way to licentiousness were to be imprisoned at the discretion of the Governor, and if not reclaimed were to be sent back to England. All persons telling a lie, or absenting themselves from morning or evening prayers, were to be fined four fanams for each offence. Persons being out of the Fort after eight o'clock in the evening were to be punished; and any one committing the heinous offence of getting over the walls of the Fort upon any pretence whatever, was to be kept in irons until the arrival of the ships, and then to be sent to England there to receive further condign punishment. It was also ordained that all persons swearing, cursing, banning, or blaspheming the sacred name of Almighty God should

The position of some of the early Madras Governors must have been a very peculiar one. In Charles II's time the French and English were allies in Europe, but in the East they were rivals. On one occasion a French Admiral landed a force at St. Thomé, and captured the place from the Mussulman authorities; and the Madras Governor could not help the Mussulmans to drive them out because of the European alliance, and consequently had to give presents of scarlet broad cloth, looking glasses, sandals, and other similar articles to the Mussulman officers at St. Thomé, lest they should transmit complaints of his conduct to the court at Golconda. Then, again, the Native great men generally, extracted frequent presents by threatening to get the town rent raised. Moreover in 1677 the Mahrattas poured into the Carnatic under the celebrated Sivajee, and demanded presents, which were of course promptly forwarded. Meantime the Directors at home insisted upon collecting a house tax in their town at Madraspatanam, which was rapidly increasing in size and population; and this step threatened to depopulate the town, and was only carried out with great difficulty.

About 1688, the year of the "great and glorious" revolution at home, a serious danger threatened Fort St. George, and the place was put into a state of defence. The independent Mussulman kingdoms of the Dekhan had long been a source of annoyance to the Great Mogul; for every rebellious prince in the royal family of Delhi, every disgraced minister or disappointed general, rushed off to the Dekhan to secure a refuge, and in many cases to procure the means of revenge. The throne at Delhi was at this period held by Aurungzebe, the Oliver Cromwell of the East, and perhaps the greatest of all the Mogul Sovereigns. The conquest of the Dekhan was his favourite scheme, and the grand army of the Mogul was marched to Bijapore and Golconda, and the Mussulman Kings of the Dekhan ceased to be. Madras thus underwent a further change of masters, and had to forward large presents to the Mogul Officers. But

pay a fine of four fanams for each offence; that any two persons, who should go out into the fields to decide a quarrel between them by the sword or fire arms, should be imprisoned for two months on nothing but rice and water; that any soldier giving another the lie should be made fast to a gun, and then receive ten small blows with a rattan, well laid on by the man to whom he had given the lie; and that any officer who should in any way connive at the offence, or at any mitigation of the punishment, should forfeit a month's wages.

meantime Aurungzebe had awakened a new enemy who was ultimately to overthrow the Mogul power. A great army of Mahrattas under Sivajee poured into the Carnatic and plundered Conjeveram, only forty miles from Fort St. George, and then advanced upon Golconda. A protracted and desolating war between the Mahrattas and the Moguls ensued, which lasted for ten years, and more than once threatened to overwhelm Fort St. George. The principal domestic events in the history of the English settlement at this period were the institution of a Mayor, Aldermen and Burgesses in Madras; the rise of the Armenian community under special privileges; and a great exchange of feasting and festivities between the Dutch Governor of Pulicat and the English Governor of Fort St. George, who were of course very good friends during the reign of Dutch William. A famous naval fight, now quite forgotten, also took place between the English and French in the Madras roads and within view of the Fort; whilst the Madras territory was extended a little by the possession of some of the villages which make up the modern city of Madras. Throughout the whole period, interlopers, or pirates as they were charitably called, were very troublesome; whilst a rival Company started at home, and occasioned great loss and anxiety. These matters however are recorded in general history; the following story will prove more novel and entertaining, whilst largely illustrating the early relations between the English and the Moguls.

About the year 1700 Dawood Khan, a Mogul General of some eminence, was appointed by Aurungzebe to be Commander in Chief of the Carnatic, which of course included the little English territory of Madras. The great object of Dawood Khan was to obtain a large present from the English, and accordingly he visited St. Thomé, and hinted that he required the modest sum of ten thousand pagodas. At that time the Governor of Madras was Mr. Thomas Pitt, better known as the grandfather of the great Earl of Chatham, and the possessor of the great Pitt Diamond. Mr. Pitt was determined to thwart the avaricious Nabob, but for some months negotiations were conducted with an outward show of the utmost possible cordiality. On one occasion,—Saturday, 12th July 1702—a splendid feast was given to the Nabob in the Consultation Room in Fort St. George. The whole entertainment was conducted on a magnificent scale. The train bands were ordered out, and the little streets of the Fort were lined with soldiers from St. Thomé gate to the Governor's quarters.

A dinner of six hundred dishes was dressed and managed by a Persian inhabitant; at which the Nabob, the Dewan, and the Bukshee all ate and drank very heartily; and indeed the devotion of the Nabob to the cordial waters and French brandy must have been highly gratifying to his entertainers. After dinner the dancing girls were introduced into the Consultation Room to divert the Nabob; and about sunset the latter departed, announcing his intention of getting up early next morning to pay a visit to the ships in the roads. Next morning, however, it was reported that the Nabob had got so drunk the night before that he could not go. But these civilities did not divert Dawood Khan from his primary object—the ten thousand pagodas; and Mr. Pitt deemed it expedient to form a band of Portuguese volunteers, and indeed the Fort was kept in a state of constant alarm. On one occasion, when more than half intoxicated, the Nabob suddenly moved towards the Fort with a great detachment of horse and foot and all his elephants; but was induced to halt until Mr. Pitt could be informed of his arrival. The halt proved too much for the sobriety of the Mussulman lord, and he staggered into a Portuguese chapel and slept away until the evening, when he sent a messenger to Governor Pitt to tender his apologies for not coming, and to request the favour of a dozen more bottles of cordial waters. A few months afterwards affairs reached a climax. Dawood Khan made still greater demands, which Mr. Pitt resisted. At length the Mussulman fairly besieged the Fort, cut off all supplies, and seized all goods coming from up country. The blockade lasted for three months, after which some kind of compromise was effected, and the siege was raised.

Mr. Pitt was Governor of Madras during the unprecedentedly long period of eleven years. The most remarkable event in his career was the good understanding which he managed to effect with the Great Mogul at Delhi. Aurungzebe died in 1707, and his three sons as usual on such occasions, engaged in deadly conflict for the throne. Shah Alum the eldest took some steps to propitiate Mr. Pitt, in order to induce the English Governor to arrest and secure a dangerous brother, who might try and escape on board one of the vessels in the Madras roads and renew the conflict in Bengal. Governor Pitt in return sent the most fulsome letters of compliment, by which however he succeeded in obtaining many decided advantages for Madras. Subsequently Shah Alum gained the victory over his brothers, and secured the throne without any assistance from the English.

The successor to Mr. Pitt, was Gulstone Addison, the eldest brother of the great Essayist. Poor Gulstone, however, died a month afterwards, leaving a fortune to his celebrated relative. In 1710 Dawood Khan was finally recalled, and Sadatullah Khan was appointed Dewan of the Carnatic, who is remarkable in history as being the first Dewan or Nabob of the Carnatic, who endeavoured to make the office hereditary. In 1712 Shah Alum died at Lahore, and another desperate fratricidal struggle took place between his four sons; which after some months terminated in the death of all four, and the accession of a nephew, known in history as Feroksere. About this time the celebrated Cheen Kulich Khan, the ancestor of the present Nizam, was appointed Subah of the Dekhan, under the title of Nizam-ool-Moolk, or 'Regulator of the State', by which latter designation he is generally known. During the reign of Feroksere, the English settlement at Calcutta sent an embassy to Delhi; and a firman was obtained, which settled some disputes between the Governor of Fort St. George and the Nabob of the Carnatic, and was of course received at Madras with every demonstration of respect and rejoicing.* But the power of the Moguls was already on the decline. Feroksere owed his elevation to two Seiad brothers Abdullah and Hussein, and was anxious to escape from their thralldom. Fortune seemed to smile upon the attempt. Abdullah was vizier, and he removed the Nizam from the government of the Dekhan, and appointed Hussein in his room; and Feroksere secured the services of the deposed Nizam by proposing to make him Vizier in the room of Abdullah, who was to be assassinated. The plot was ripe for execution, for Hussein was away in the Dekhan. But all went wrong through the criminal weakness of Feroksere. He had a favourite,—a low profligate minion who was hated by the whole court, and who persuaded the King to postpone the execution of the plot, and to make him Vizier instead of the Nizam. Abdullah discovered the scheme, and saw that so long as Feroksere lived his own life was in imminent danger. Accordingly he made friends with the Nizam, and summoned Hussein from the Dekhan. The terrible events which followed have been but too often paralleled in Oriental history, but are well worthy of notice. Hussein reached Delhi with 30,000 horsemen, of whom 10,000 were Mahrattas. The very appearance of the Mahrattas, Hindoo robbers as they were, suggested ideas of

* Copies of the correspondence between the envoys and the Calcutta governor are to be found in the Madras records.

massacre and plunder to the Mussulman population of Delhi. In a word, the whole city was filled with dread, for every one felt that a terrible convulsion was at hand, and no one could foretell the issue of the struggle. A wild rumour suddenly brought matters to a climax. The Mussulmans rose against the Mahrattas, and plunder, fire, and massacre began. Within the Palace another conflict was taking place. Feroksere had fled for refuge to his harem, and refused to leave it. The rude soldiery of the Seiads rushed into the sacred apartments, and soon discovered the unhappy Emperor in an agony of terror, surrounded by his mother, wife, and daughter, and other princesses. Shrieks and prayers for mercy were of course unheeded. Feroksere was dragged away to a dark chamber, and the hot iron was drawn over his eyes; whilst the booming of cannon and strains of music were announcing to the people of Delhi that the wretched sovereign was deposed, and that another puppet king reigned in his stead. In a few hours order was restored, and two months afterwards the fatal bowstring ended the days of the unhappy Feroksere. We need not follow the Mogul history further. It will be sufficient to say that in 1720 Mohammed Shah reigned at Delhi, and the Nizam regained the government of the Dekhan.

Madras history during this period is marked by extreme quietude. The rent of 1200 pagodas was regularly paid to Sadatullah, the Nabob of the Carnatic; whilst the Nizam was so much occupied with resisting the Mahrattas, and endeavouring to establish his own independence in the Dekhan, that he does not appear to have interfered in the Carnatic, and certainly did not trouble himself about the little English settlement at Fort St. George. These had been money making times, but still the Company had found it necessary to appoint a Governor of Madras prepared to cut down the expenditure of the settlement; and this financial reform was achieved by a Scotchman who had been many years in the naval service, and is still remembered as Governor Macrae. The result was that in 1726 the entire public expenditure of Fort St. George, including all the charges for salaries, soldiers' pay, diet, repairs, miscellaneous charges, was reduced from 39,000 pagodas per annum to 35,000 pagodas only; or reckoning the pagoda at four rupees, or eight shillings sterling, which was about the rate of exchange in those days, from about £15,600 to £14,200 a year. At the same time the town revenues were 64,000 pagodas, or nearly double the whole expenditure of the settlement.

In 1727 a new charter from the Crown for the establishment

of a Mayor and Corporation, was granted to the city of Madraspatanam, and was celebrated with much rejoicing, and especially with a great procession from the Governor's Garden House to the Fort, which would seem rather strange in these days. We copy the order of the procession as set down in a contemporary record, premising that Major Roach commanded the garrison, and that the Pedda Naik was the hereditary head of the town police :—

Major John Roach on horseback at the head of a company of Foot soldiers,
with kettledrum, trumpet, and other music.

The Dancing Girls with the country music.

The Pedda Naik on horseback at the head of his Peons.

The Marshall with his staff on horseback.

The Court Attornies on horseback.

The Registrar carrying their old Charter on horseback.

The Serjeants with their Maces on horseback.

The old Mayor on the right hand and the new
one on the left.

The Aldermen, two and two, all on horseback.

The Company's Chief Peon on horseback, with his Peons.

The Sheriff with white wand on horseback

The Chief Gentry in the town on horseback.

} Six halbeidiers

In 1732 Sadatullah Khan, Nabob of the Carnatic, died of grief for the loss of his wife. He left no children, and his Nabobship was conferred on his nephew Dost Ali, who was called Nabob of Arcot from his residence in that capital, which was about sixty miles from Madras. Meantime the weakness of the Mogul, and the evil effects of the Mussulman rule were sharply felt in Southern India. Under the Hindoo Rajahs, the tanks or reservoirs of water, which are absolutely necessary in the Carnatic, where the rains are scanty and uncertain, were constantly kept in repair; but such had been the neglect or rapacity of the Nabobs of Arcot, that these tanks had been altogether neglected, and rice had risen to a famine price, and great privations were endured by the Native population.

Significant events were now transpiring in India which were to culminate in that great change in the relations between the English and the Native powers, which ultimately led to the establishment of the British supremacy. On the southern frontier of the territory administered by the Nabob of Arcot, and about two hundred miles to the southward of Madras, lay the little Hindoo kingdom of Trichinopoly. In 1732 the Rajah of Trichinopoly died without issue, and according to the custom of the time, his second and third wives burned

themselves with his body, or in other words, became suttee. The first wife succeeded to the Government as Ranee, but her authority was disputed by a Prince of the blood. Under these circumstances, the Ranee appealed to Dost Ali, the Nabob of Arcot, for aid; and the latter sent an army under his son Subder Ali, and his son-in-law Chunda Sahib, to take possession of the kingdom. The name of Chunda Sahib should be borne in mind, as he conducted all the negotiations on this occasion, and subsequently rendered himself famous in history. The army invaded the territory of Trichinopoly, but could not take the capital. At length the Ranee was induced by Chunda Sahib to admit a body of troops. Orme says that she had fallen in love with the latter gentleman, but this story is apocryphal. It is certain, however, that Chunda Sahib swore on the Koran, or rather on a brick wrapped with the same splendid covering that usually envelopes a Koran, that the troops so admitted should only be employed in the restoration of the Ranee, and should then be withdrawn. Of course such an oath was made to be broken; and it will be sufficient to say that Chunda Sahib speedily mastered the Fort, imprisoned the unfortunate Ranee, and made himself master of the kingdom.

These incidents were duly reported to the Governor of Madras by the vakeel at Arcot, but more important events were to follow. The Mahrattas were rapidly becoming a power in India. Nadir Shah, the usurper of the Persian throne, had advanced his empire over Afghanistan, and then marched on to Delhi. The sack, massacre, and outrage which followed in 1739 still form one of the darkest pages in oriental history. The little government at Fort St. George heard the story with dismay, but their more immediate fears were excited by the Mahrattas. In the year of the Delhi massacre, Fort St. George was put in the best posture of defence, for advices were pouring in from all quarters that the Mahrattas were coming. The Nabob Dost Ali gallantly prepared for action. The plain of the Carnatic is surrounded on its western frontier by a chain of ghauts, about 100 miles from the sea; and the Mahratta army was expected to enter by the pass or gorge of Damalcherry, about 100 miles westward of Madras. At this pass Dost Ali posted himself with a large army, but he was betrayed. The Mahrattas entered the Carnatic by another route, and then attacked Dost Ali in the rear; and on the 12th May 1740, the tidings reached Madras that Dost Ali was utterly defeated and slain. The excitement of that time is strikingly depicted in contemporary records.

Volunteers were raised, sailors were brought in from the ships, provisions were stored, fresh guns mounted, native huts cleared away from before the walls; whilst the Mahrattas plundered Arcot, Conjeveram, and other places in the neighbourhood, and behaved in every respect like an army of relentless and remorseless robbers. Fortunately they turned to the south and seized Trichinopoly, after which Subder Ali, the son and successor of Dost Ali, succeeded in buying them off by the payment of ten lakhs of rupees. Eventually they returned through Mysore to Sattara, carrying away Chunda Sahib, late ruler of Trichinopoly, as their prisoner.

Subder Ali was thus relieved, but his distresses were not over. His end proved a tragical one. His father had kept back the tribute due to the Nizam, and consequently no sooner had the new Nabob been plundered by the Mahrattas, than he was called upon to send a vast sum to Hyderabad in the shape of arrears. Under such circumstances he affected extreme poverty, and a desire to go on a pilgrimage to Mecca; whilst he sent the women and children of his family, together with his treasures, to Madras; the wife and children of Chunda Sahib having already found protection at the French settlement of Pondicherry, then under the Government of the celebrated Dupleix. Subder Ali meantime neglected no means to satisfy the Nizam. He called upon the various commanders of towns and forts of the Carnatic to pay up their arrears of tribute, but of course met with excuses and delays, especially from Mortiz Ali, the Governor of the Fort of Vellore. The town of Arcot lies about 60 miles from Madras, and the Fort of Vellore about 20 miles further; and at this juncture Subder Ali moved from Arcot to Vellore, both to enjoy the protection afforded by the Fort, and to force Mortiz Ali to pay up his share of the arrears. His army encamped in the suburbs and under the walls, whilst he resided in the Fort constantly attended by a body of guards and a numerous retinue. But the festival of the Mohurram arrived, and Subder Ali imprudently permitted the greater number of his retinue to spend two or three days with their families. The very day the leave had been granted his food was poisoned; but he threw off the effects and was induced to believe that he had only suffered from an attack of bile. Mortiz Ali now saw he had no time to lose. An Afghan was found, whose wife had been outraged by Subder Ali, and who was supposed to be eager for revenge. A few of those black Abyssian slaves, who are ever ready to commit any atrocity required by their masters, were engaged to assist

the Afghan. At midnight the party entered the bed chamber of Subder Ali. The servants sleeping round the bed were at once seized and disarmed. The Nabob tried to escape through the window, but was arrested by the Afghan, who first upbraided him with his adultery, and then avenged the outrage by stabbing him with his poinard until he was dead. The next morning the news of the tragedy was carried to the army, but on promise of receiving all arrears of pay, the soldiers at once acknowledged Mortiz Ali as their new Nabob. The latter proceeded to Arcot with great pomp, in order to seize the treasures which would enable him to keep his promise, but found that the said treasures had all been sent away to Madras; and the soldiers, not receiving their expected reward, began to feel some compunctions for the deed which had been committed. The palace was surrounded by a tumultuous mob of excited sepoys; and Mortiz Ali in great terror disguised himself as a woman, and quitted Arcot at night in a covered palanquin, and proceeded with all speed to Vellore. Next morning Seid Mahomed Khan, son of Subder Ali, was proclaimed Nabob.

Scarcely had this revolution transpired, when tidings arrived that the Nizam-ool-Moolk had left the Dekhan with an overwhelming army, and was approaching the Carnatic. This event naturally created a great sensation. The Nizam marched through the Carnatic to Trichinopoly, which he wrote from the Mahrattas. Here an English embassy from Fort St. George humbly waited upon him, but were far too insignificant to be honoured with an interview. The Nizam then returned to Arcot, where he appointed an adventurer named Anwar-oo-deen to be Nabob for a time, promising to give the Nabobship to Seid Mohamed as soon as the latter arrived at manhood. Thus Anwar-oo-deen had a positive interest in the death of the young prince, and another tragedy soon took place in the palace of Arcot, even more terrible than that which had recently transpired in the blood-stained walls of Vellore. In June 1744 the marriage of one of the relations of the late Subder Ali was celebrated at Arcot, and the young Seid Mahomed presided at the ceremony as head of the family. All the members of the house, including even Mortiz Ali, were present; and the regent Anwar-oo-deen was also invited. On the morning of the festival, twelve Afghan soldiers, with their captain at their head, approached the young prince, and, insolently demanded their arrears of pay; and, after some expostulations from the attendants, were turned out of the palace by force.

Further on in the day, however, they advanced again and apologized for their disrespectful behaviour; and this submission removed all further suspicion of their conduct. In the evening, Anwar-oo-deen was said to be approaching, and accordingly the young prince and all his guests arose from their seats in the reception hall, and passed into the vestibule in order to receive the regent at the foot of the steps which led to it. Foremost among the spectators below were the thirteen Afghans, who saluted Seid Mahomed Khan with great reverence; and their captain then ascended the steps with the air of a man desirous of propitiating his lord. He was thus permitted to approach the person of Seid Mahomed, when he suddenly drew his dagger and stabbed the prince to the heart with the first blow. The marriage rejoicings were in a moment overshadowed with horror. 'A thousand swords and poniards were drawn in an instant; the murderer was cut to pieces on the very spot; and ten of his accomplices suffered the same fate from the fury of the populace below.*

By this deed of blood Anwar-oo-deen became Nabob of the Carnatic; but the extent of his implication is a mystery which in all probability will never be known. He was the founder of the family of which the last seion died in 1856, and who is still represented by Prince Azim Jah.

Such was the state of things when in 1744 the war of the Austrian succession drew Great Britain into collision with France, Morse was then Governor of Madras, and M. Dupleix was Governor of Pondicherry. Old Morse was a Company's merchant, and no more; Dupleix, on the other hand, was not only a French merchant but an Indian statesman. The object of Morse was to keep down the expenditure, and present a favourable balance sheet every year to his Honorable Masters. The object of Dupleix was to gain a share in the sovereignty of Southern India; and to effect this end he employed every resource at his disposal, utterly regardless either of the balance sheet or of his Honorable Masters the French Directors. Both the English and French Governments prepared to send out expeditions for the protection of the settlements of their respective East India Companies. Thus an English fleet was sent out by the Government of George II. under the command of Commodore Barnet; and a French fleet was dispatched by the Government of Louis XV under the command of M. Labourdonnais.

At this crisis Dupleix was in his element, whilst his English rivals were nowhere. The far seeing Frenchman seems to have had a wholesome horror of actual warfare, but was endowed with a brilliant genius for intrigue, and perhaps for chicanery. The English fleet was the first to arrive in the Bay of Bengal, but Dupleix prevailed on the Nabob Anwar-oo-deen to command the English not to make war within the limits of the Carnatic, and by these means he undoubtedly preserved Pondicherry from an attack by sea. Dupleix also liberally entertained the wife and family of Chunda Sahib at Pondicherry, and even corresponded privately with Chunda Sahib himself, who was still a prisoner in the hands of the Mahrattas; for the illustrious captive was representative of the old family of Sadatulla Khan, and might succeed in a future convulsion in overturning the authority of Anwar-oo-deen. At last in 1746, Labourdonnais arrived, and took Madras almost without a blow, but on the express stipulation that it should be restored on the payment of a moderate ransom. Dupleix here made a grand display of his intriguing powers. He amused the Nabob by assuring him that though Madras had been captured by the French, yet it should be ultimately delivered up to him as lord paramount. He utterly refused to ratify the terms upon which Madras had capitulated to Labourdonnais: he declined to deliver up the place on ransom, he seized all the private property of the English inhabitants, and he marched off all the leading people to Pondicherry as prisoners of war. One significant event followed these unprincipled transactions. The Nabob Anwar-oo-deen was naturally enraged at being overreached by the wily Frenchman, and marched an army of Mussulmans to capture Madras; but to his intense surprise and mortification his army was beaten back by the French Artillery, and thus the spell was in a great measure broken which had hitherto held the Europeans in subjection to the native powers.

On the fall of Madras the English had removed the seat of Government on the Coast of Coromandel to their settlement at Fort St. David, about 100 miles to the south of Madras, and 16 miles to the south of Pondicherry. Dupleix attacked Fort St. David, but the English were assisted by the Nabob and the attempt failed. The English in return attempted to capture Pondicherry, but that attempt also failed. At last in 1749 the war was brought to a conclusion by the peace of Aix-la-Chapelle; and to the bitter regret of Dupleix, Madras and Fort St. George were restored to the English, after an occupation of two years.

But a new revolution was to convulse not only the Carnatic

but the Dekhan, and for a brief interval Dupleix was to realize his dream of empire. At the very moment that he was irritated beyond measure at the terms of the treaty of Aix-la-Chapelle, the news arrived that the old Nizam of the Dekhan had been gathered to his fathers at the ripe age of a hundred and four years, and that two claimants had started for the vacant throne at Hyderabad, namely, Nazir Jung, a son of the deceased Nizam, and Mirzaffir Jung a grandson. At the same time Chunda Sahib had procured his release from the Mahrattas, and was prepared to make an effort to wrest the Nabobship of the Carnatic out of the hands of Anwar-oo-deen. Nazir Jung was far away to the north, fighting an elder brother, and apparently regardless of the designs of his nephew Mirzaffir Jung. Accordingly Chunda Sahib managed to form an alliance with Mirzaffir Jung, and Dupleix became at once the life and soul of the confederacy. Money and troops were raised, and it was decided that the united forces should in the first instance make Chunda Sahib Nabob of the Carnatic; and then make Mirzaffir Jung Nizam of the Dekhan.

The first part of the programme was cleverly performed. Anwar-oo-deen, the suspected murderer of the young Seid Mahomed, was utterly defeated and slain. Arcot surrendered without resistance; and the English at Madras were thunderstruck by the news that the two allies of Dupleix had achieved the most brilliant success; that Mirzaffir Jung had assumed the state and title of Nizam of the Dekhan, and had then on his own authority appointed Chunda Sahib Nabob of the Carnatic. The new Nizam and new Nabob next proceeded to Pondicherry, where they were received with all respect and pomp by Dupleix. One trifling achievement was alone required to consummate this success. Mahomed Ali, the son and heir of Anwar-oo-deen, and an important man in after years, had fled to the strong city of Trichinopoly; and the capture of that place alone remained to complete the conquest of the Carnatic, and the utter overthrow of the family of Anwar-oo-deen. Accordingly Dupleix pressed in the strongest terms for an immediate march upon Trichinopoly; but the two Native Princes seemed indisposed to turn their backs upon the pomps and pleasures of Pondicherry; and moreover, at length confessed that their treasures were all exhausted, and that their army would soon be clamouring for pay. Under such circumstances, the allies at last marched not upon Trichinopoly but upon Tanjore, where they demanded a large sum from the Rajah. The result might have been

anticipated. The negotiations were spun out to a dreary length. Demands, threats, protestations of poverty, excuses, and lies of all kinds, rendered the process of extracting the subsidy a most tedious and protracted affair. At last bombardment was tried, and then the Rajah consented to pay a large sum. But the delay was not yet over. The Rajah paid up the first instalment in driblets; and that too not in pagodas or rupees, but in the shape of gold and silver plate, old coins, jewels, and other species of nondescript wealth. At this moment news arrived that Nazir Jung had marched into the Carnatic. The armies met at Ginjee, and the result seemed to have ruined for ever the cause of the allies. Dupleix was not a fighting man, and accordingly had sent M. D'Auteuil to command his contingent. Then the French Officers mutinied for pay; D'Auteuil and Chunda Sahib fled to Pondicherry; whilst Mirzaffir Jung surrendered at discretion to his uncle, and was immediately thrown into irons.

Dupleix's schemes were thus utterly defeated, but his spirit was unconquerable. He opened one negotiation with Nazir Jung, and another with some discontented Afghan chiefs in Nazir Jung's army. The result was that the French attacked Nazir Jung's army, and the Afghans refused to repel them. Nazir Jung was shot dead by one of the insurgents, and Mirzaffir Jung was immediately freed from his irons, and hailed Nizam of the Dekhan.

To describe the emotions of Chunda Sahib and Dupleix when the news reached Pondicherry, is beyond our power. Chunda Sahib rushed out of his house without palanquin or attendance of any kind, and threw himself into the arms of Dupleix. The two friends, the Mussulman and the Frenchman, embraced like men escaped from shipwreck. Guns were fired, Te Deums were sung, Mirzaffir Jung made a triumphant entry into Pondicherry, and Dupleix arrayed in the costume of a Nabob was created Governor of all India south of the river Kistna for the Great Mogul. A few months afterwards Mirzaffir Jung was himself slain by the Afghans, but his brother Salabut Jung was at once raised to the vacant throne, and thus the French influence continued to predominate in the Court of the Nizam.

The feelings of the English during the progress of these extraordinary revolutions must have been mortifying in the extreme. They were still prepared to support Mohammed Ali, the son of Anwar-oo-deen; but Mohammed Ali was shut up in the Fort of Trichinopoly, which was daily expected to fall into the hands of Chunda Sahib. Moreover the English generally were

utterly dispirited and unnerved. At this juncture the English Company was saved by the genius of Clive. He volunteered to draw off Chunda Sahib from Trichinopoly by making an attack on Arcot. He was only twenty-five years of age, and only 500 soldiers could be spared; but the crisis was a desperate one, and his services were accepted. Amidst a storm of thunder, lightning, and rain, Clive pushed on to the gates of Arcot. The garrison fled in a panic, and his little army entered without a blow. Clive instantly prepared for a siege. The garrison recovered its panic and encamped close to the town; but Clive marched out at mid-night, and completely routed them without losing a man. Matters seemed now to wear a serious aspect for Chunda Sahib and the French. An army of ten thousand men was collected and sent against Clive, under the command of a son of Chunda Sahib. The siege lasted fifty days. Threats and bribes were tried in vain to induce Clive to capitulate. At last an overwhelming attack was made on the great day of the Mohurram; but Clive resisted the most desperate onsets, and eventually the siege was raised. To this day the defence of Arcot must be regarded as one of the most brilliant achievements in military history. It turned the tide of affairs throughout the whole of the Carnatic. Mysoreans and the Mahrattas alike came forward to support the cause of Mohammed Ali and the English. The French and Chunda Sahib were compelled to retire from the walls of Trichinopoly to the fortified pagoda of Seringham; and were there pressed so closely that their forces deserted in crowds. At last Chunda Sahib surrendered to the Rajah of Tanjore, who put him to death; whilst the French troops surrendered prisoners of war. Subsequently Trichinopoly was again besieged by the French, but the details are of little interest now. In 1754 the war was brought to a close, Duplax was recalled, and Mohammed Ali, the ally of the English, was acknowledged Nabob of the Carnatic, a dignity which has recently been brought definitely to a close.

The English and French at Madras and Pondicherry would now have been content to live together like good neighbours, when the seven years war, which broke out in 1756, once more brought them into collision. But this war does not come within the scope of the present review, which was intended chiefly to illustrate the early progress of the Madras Presidency, and the early relations between the English settlers and the Native powers. The unsuccessful siege of Fort St. George by Count Lally in 1758-59, and the successful capture of Pondicherry in 1761 by Sir Eyre Coote, are thus principally worthy of notice

from the prominent place they occupy in the graphic pages of Robert Orme.

The subsequent century of Madras history remains to be written, and when written will be found to possess a value and interest at present wholly unknown. It would not only unfold the gradual extension of the British power from a jageer to an empire, but it would exhibit the history of those patient administrators who conscientiously sought to adapt the Government to the people, rather than to force the people to accept their own foreign ideas. But upon this point we need not now dwell.

ART. V.—1. *Directions to Revenue Officers.*

2. *Report of the Indigo Commission.*

3. *Report of Select Committee of the House of Commons on Colonisation and Settlement.*

4. *Col. Baird Smith's Famine Reports.*

5. *Act X, 1859.*

IN early life we are full of faith in the unfailing efficacy of abstract truths. We assume, and apparently without much inconsistency, that what is true must be irresistible and that great truths have only to be proved to be so, and all mankind will come together and join shoulders to carry them out in practice. But, as we shake off the dreams of youth, the stern features of a new life slowly declare themselves, and in the presence of unpleasant and undeniable facts we are reduced to take a more gloomy view of human nature and to accept the painful maxim that political fallacies are at least as powerful as political truths.

For a period of one hundred years we have been consecrating political errors in a country from which the civilisation of the West has been scrupulously excluded. India has had a strange national existence under a government which has been, perhaps out of compliment, called an enlightened despotism.

If in this country we have brought a slight on our religion, imprecations on our law courts, disgrace on our policy, and a slur on our credit, we have likewise failed to protect the most fruitful land in the world against the curse of poverty. Happily, indeed, in some respects the past is relaxing somewhat its fatal hold on the present and resigning its influence over the future : in a proclamation, which but for the absence of earnestness would

have inaugurated an era, we declared Christianity to be the religion of the rulers of this country; the laws are being steadily infused with the broad principles of equity; our public policy is more manly if not yet actually dignified; our credit has been restored, and growing intelligence may be remarked throughout the country, yet the evil which has so long clung to the land of India is still permitted to continue its work of ruin and mischief, while vacillation has undone what a happy accident had almost realised.

Recent events have gone far to engender a feeling of uncertainty in the public mind, and to damp the hopes raised by some of the last and most important political acts of Lord Canning. Under the circumstances, it is impossible to foresee, much less to predict, the time when the public interests, so thoughtlessly neglected now, will receive the attention which they not only deserve but absolutely require.

It can hardly be denied that the difficulties which have beset the solution of the land question have checked and retarded the material prosperity of this country. Whenever property in land is burdened with injudicious conditions, the progress of one of the most useful classes of society is necessarily arrested. Indeed, the importance of the subject is such as can hardly be exaggerated. The earth to which we all return is our most cherished acquisition. The strongest passion in the human breast is the love of land. Money making ever points to it; capital seeks it all over the world; small landlords labor to become great ones; while the stream of emigration turned from kindred Australia, it poured in full tide on the states of the American Union, because there land was less burdened by the evils of special legislation.

In a country like this where commercial enterprise is so miserably confined the fate of the land determines the fate of society. In India the question affecting land affects the well being of native society; it regulates the happiness of millions; it controls their criminal statistics; and can arm or disarm the energy of the class to whose labor society is so greatly indebted. Whether for good or for evil the treatment of the land question in India has marked epochs in her social history which cannot escape the notice of even a casual observer. The solution of this difficulty cannot any longer be deferred without also deferring the progress of a people painfully backward in enterprise. Land has, of late, acquired a value which renders it a matter of the last importance that it should no longer be allowed to deteriorate under the influence of imperfect legislation. We shall not discuss here the danger of resisting a revolution which tends to increase the value of property.

It is not easy to attach convertible value to land in a country so peculiarly situated as India; but when various causes have combined to effect this result, there is, placed at the disposal of society a powerful means of resisting the effects of those awful calamities which overtake us in times of peace.

Agrarian troubles generally spring from a conflict between a vitiated land system and the passion for land from which the most thriftless classes of an agricultural society are not free; let us not mistake them for the troubles which arise from the unpleasant reminiscences of past injuries. When Sir Robert Peel set on foot the famous Devon Commission, he is said to have stated to the House of Commons that the distempers which affected Ireland were material evils, and may be traced to a land system, which almost disorganized society by disturbing the natural relations between landlord and tenant on which alone depend the hopes of a lasting peace.

Whether we look for tranquillity in Bengal to the social welfare of the millions who are bound to the soil, or to the prosperity of those important interests which unite England and India in commercial harmony, we must endeavour to improve the system under which property in land can be acquired and held under the government of India. It is not yet a vain hope that, with the solution of the main puzzle, the collateral difficulties which impede the growth of the spirit of enterprise in native society will also be successfully overcome.

'Who is not weary and sad,' asks Miss Martineau, 'at the mere mention of land tenures in India'? Whatever may be the nature of the feeling roused by the 'mere mention' of the subject, we cannot deny that the evil, which so thoroughly pervades it, has grown to such dimensions as to leave us no other option but a speedy and practical treatment of the disease. Twenty-five years ago the subject received an amount of attention which was certainly not to have been expected from the ignorance which then prevailed on all matters connected with the land of the country; whether the statesmen of those days anticipated the difficulties which now beset our path, or whether the inquiry was only a matter of routine, the discussions of those days are on record, though as a matter of course unanimity of conviction on such a subject was not consistent with either the zeal or the ignorance of the men who took part in it; yet the absence of unanimity, has led to the complications which we have now such just cause to deplore. Each party appropriated to a province the use and benefit of its favorite theory, and freely experimentalised

upon, what it considered, its own exclusive domain. The results of these experiments are the different land systems which now prevail in this country. But even with the experience of a century before us, we have not acquired sufficient confidence to decide on the claims of the contending theories. We may study to neglect the laws of nature, but they assert themselves against the obstacles contrived by human ignorance and stupidity. Though we have failed to elect the most practicable from among these rural systems or to substitute a better in their place, the evils with which these systems are so largely leavened have borne fruit, and each after its kind.

One conclusion, however, is inevitable: the systems which necessitate prejudicial protection to property and a dangerous amount of over-government cannot work with the progress of commerce. The existing theories must disappear under the altered relations of landlord and tenant which are indispensable to the creation of capital. It would be wise, while yet it is possible, to save society from the rude shocks to which it will be exposed, if the disease which now afflicts it, is allowed to work out its own cure.

Whether these precautions be adopted or not, the course of events cannot be resisted. The changes which are looming in the future involve the destinies of India. The machinery by which a small revenue is raised with oppression must give place to one which is capable of increasing the productive powers of land and labor without over-taxing them. The change must evidently be of a radical character, and we must be prepared to forget the policy which derives its name from the miserable traditions of a century of misrule.

It is admitted by one of the most enlightened statesmen of the old school, 'that the land tax is generally so high, that it 'cannot well be higher;' and yet we cannot venture to deny that the public coffers have never been full, and that we have recklessly rejected the means of replenishing them. It is also alleged, without any exaggeration, that we extort all we can from every available source of income, yet our revenue has not been such as to secure us against a formidable deficit. We have cultivated only a fifth of the cultivable land of the country, and yet we find the desire to increase cultivation contemptibly weak!

The origin of the evil which has so far frustrated all our attempts to secure to the natives the advantages of an enlightened despotism, must be sought elsewhere than in the character of the people or the quality of the soil; it taints our public policy;

our judicial courts, and that system of government under which both land and labor have suffered so long. A faulty land system has been so long perpetuated by a faulty judicial machinery that they now seem only to stand in need of mutual help to complete the work of mischief. A weak executive, contradictory and vague laws, are evils great enough to counteract the merits of the best land system in the world, but if we add to these a land system almost paralysed with inherent defects, private virtue and private enterprise can alone save society from that state of stagnation which precedes the rough work of disorganisation.

When a regulation-hampered judiciary virtually closed the door to legal remedies, society was gradually thrown back to that state of existence in which the power to act is the only justification of the act itself. While such was the danger which beset our best guarantee of administrative success, empirical statesmen hazarded a general censure on the judicial machinery and suspended law to check agrarian insurrection. It is stated that the late Company estimated its fiscal officers above its lawyers and politicians, but if such was the fact, it only illustrates the proneness of public bodies to preach virtue without the courage to practise it. If public approbation could instil genius into the official mind, we might by this time have reckoned among our Lushingtons and Dorins some men who would have the temerity to adopt the most elementary principles of political economy; but unfortunately it was essential to official success that the traditionary policy should be preserved in its integrity, and our fiscal officers were too well satisfied with lucrative subordination to incur the danger of enunciating new principles of land economy unacceptable to the traditionists. Thus the defects of the land system were now placed on the law courts which did not originate them, and then on the landlords who had so much to complain of in them, while the evil worked its way far beyond the reach of wild doctrinaires who still hoped for success by the application of exploded specifics.

The disease at length assumed that chronic form which necessitates immediate and severe remedies; but unhappily for the public, while we stood in need of a mind gifted with a ready power of analysis and a will that would not swerve from its honest though severe purpose, we were favoured with philanthropic hearts which swelled with sympathy for the patient. While probing the wound might have led to eventual recovery, we tenderly concealed the rottenness with ointment and blessed our good

fortune that philanthropy was so much more welcome than professional skill.

Undoubtedly we had no reason to expect a successful unravelling of the land difficulty by the hands of those who though possessing a very kind heart and benevolent disposition, were yet wanting in a knowledge of the nature and bearing of the various tenures which obtain in the country and had only a few isolated and purely local facts, learned by personal experience, to guide them. Arm ignorant men with arbitrary power and afflict them with a predisposition to morbid philanthropy, and you may then form some idea of the working men who some thirty years ago were called upon to reduce into some sort of order and coherence the rules and orders which threatened the value of land all over the country. They succeeded, as they only could succeed, by despotically adjudicating valuable rights and perpetuating certain evil in the place of doubtful good. The published records of Government do not expose the enormities which were then committed under the sanction of law, but yet enough has been admitted to justify the impression that the evils themselves could not have been worse than the remedies which were to work the cure: 'orders were passed so averse to justice that they could not be carried out.'

In 1821 an attempt was made to restore order where confusion was so dangerously rife. Of the provision then made we can with justice remark that, considering the strong bias which influenced the official mind in favour of socialism, they restored to society an amount of life and intelligence which was incomparably superior to a state of simple existence. The Act which next propounded the new theory was deficient in practicability; in 1833 the famous Act IX. which is in fact a useful modification of Act VII. of 1822, was passed, and order partially reclaimed what had so long been wrested from it by anarchy.

We purpose in the following pages to investigate the causes which led to the failure of the different land systems of India, and to suggest means for remedying the defects which still retard the prosperity of the landed interest of the country.

Our first and most enduring mistake was to act under the influence of oriental traditions and to assume the position of the universal landlord of the country. The exploded principles of socialism, which have been condemned in Europe, were accepted here as the only true guides of public conduct in relation to property in land. This levelling philosophy found advocates

among those who were themselves the creatures of a social organization which they taught the Indian public to condemn as monopoly. Lord Harris did not scruple to assert what was perhaps too much tainted with the leaven of the traditionary policy to be distasteful to the lords of Leadenhall, that the land of a country was government property, and government should 'distribute' it so as to ensure the greatest amount of good to the public and the individual cultivators of the soil. The principle, which was so easily enunciated, was certainly difficult to carry out, and if it was not wholly impracticable, its success was regarded as a dangerous contingency.

To admit that socialism has ignominiously failed in a country which wealth reclaimed from waste or conquered from a race of aboriginal cannibals, and yet to adopt it where the most complicated rights to land have existed from time out of memory, was simply to perpetuate an act of legal plunder which may succeed, but cannot be justified. With the best intentions in the world no doubt we have condemned to ruin influential men, whose only crime seems to have been the possession of large property.

The fiat went forth, and virtually though only for a time, the land of the country was placed in the hands of one class of our subjects and the capital in the hands of another. The pet theory of Government landlordism was carried out at the cost of the sacrifice of a body of men who were universally regarded as the natural lords of the soil.

When Lord Canning proposed the abolition of all land tenures in Oude, men who were afraid to espouse a measure so recklessly bold were yet pleased with what was a clear attempt to place the land of that province at the disposal of the most careless landlord it is possible to imagine. Even to them the justice of the measure seemed hardly capable of defence, but the end was regarded as a full atonement. To say that the scheme had been long approved of by English economists and speculators is to say but little in its defence, while it is but fair to remark that it could not have been more completely condemned than by the adverse judgment of men whom it was intended to benefit.* It is hardly safe for any Government to indulge too far in the paternal maxim that we are to trust more to our own conscience than to the conscience or wishes of our subjects.

* With but one exception our economists have carefully avoided the examination of the burdens on land, and yet they have hardly ever hesitated to speak authoritatively on the land tax of India, and on the subject of land tenures generally.

When we assumed in this country, what has not unfairly been called the 'degrading position of a landlord,' those who could look into its distant consequences could not predict any good either to those who assumed the position or to those over whom it was assumed. Had land been subject to a reasonable tax as a 'chargeable property' the prosperity of the agricultural and hence of the commercial classes would have added to the taxable resources of the Government: but having seized the very vitals of a society essentially agricultural, and having availed ourselves of all the existing appliances for extracting the best part of our public wants from them, we have not only impoverished the land but unfairly confined the operations of indirect taxation. Under the direct control of land by government we have realised much from the land but have not realised enough; we have not worked its resources and yet the sources of income seem to be exhausted and poverty on the increase.

That land was held in private proprietorship before the conquest of the country by foreign invaders is a fact which the advocates of government landlordism do not venture to deny, but yet they assert that the Government to which we succeeded had a lien on the land, and hence it is argued naturally enough that we have succeeded to that right. If we look to the country where the theory might have been carried out in comparative safety, we find that government control and interference characterised by the settlers and the aborigines, in terms of seditious severity. To the abominable policy of Government being the sole purchaser of land is ascribed the evils which have attended our occupation of the fertile soil of New Zealand. While private traffic in land has not developed any peculiar evil, the system adopted by Government has twice lead us into a war with the natives, and if Government will condescend to be a perpetual supplicant for land it cannot at the same time be the protecting arbiter.

But in India it has been generally accepted that the East India Company, succeeding to the various native Governments, became absolute proprietor of the land, and that private property in land can only exist under its warranty. This interdict on private property is an idea borrowed from oriental habits, and has been guarded by a commercial jealousy which even community of race and feeling could not disarm. The unscrupulous assertion of this dangerous prerogative has retarded the progress of civilization, withholding the investment of capital and the devotion of energy from a country so happily circumstanced

by nature. A jealous government was not unwilling to avail itself of a power which would include 'interlopers' and keep the natives well 'in hand,' though it is not less true that the efforts of government cannot develope the material resources of a country, much less restore life and intelligence to its decaying society. We are, however, beginning to value, for what it is worth, a theory which at one time was exceedingly popular and cannot now boast of the support of a single advocate of reputation. We have even gone so far as gladly to assent to Mr. Campbell's *letter* and to declare that land 'was to be private property with right to abuse and mismanage it at the discretion of its owner.' We are gradually beginning to recognise the force of the well known maxim that, as regards property in land, the energies of individuals are of greater value to society than the boasted influence of the most powerful Government in the world. We are growing in our appreciation of the importance of individual interest in land, and we are not unwilling to renounce all faith in the cumbrous machinery which has kept the land of this country free from the influence of private proprietors.

The experience on which we ground our distrust of the policy which condemns a large country to a state of prolonged pupillage is not likely to suffer from the facts which are daily brought to light. The *khas* or direct Government management of land has achieved a painful identity with mismanagement; it has borne fruits which we have proclaimed to the world by our determination to get rid of all *khas* states, and we have already abandoned our hold of five hundred such estates within two years. It seems rather strange that though we have betrayed no extraordinary reluctance to grant freedom to trade and commerce, we have been painfully tenacious of our lien on land. Times, no doubt, have changed since the days of the resumption-panacea, when every piece of land resumed by Government was considered as happy a spot on earth as the imagination could well conceive; but unpleasant facts have since come to light, and these resumed lands have not been found to conduce much to the happiness of society or to the coffers of the public exchequer.

The origin of *khas* management may be traced in the unhappy results of those defects which we were unable to separate from what was essentially good in the Perpetual Settlement of Bengal. We took fright at the appearance of evils which we could not foresee, and in our love of extremes we were resolved as far as it lay in our power, never again to allow land to dribble through our fingers; we were not only eager to acquire land, but wherever

it was rescued from private proprietors we were determined not to abandon it again to the hands of selfish managers. Where only one evil existed before we now succeeded in adding another; that was all that the *khas* management has done or was expected to do. We have inflicted our wisdom on a whole Presidency, and, under the ill discharged duties of a landlord, Government has earned deserved unpopularity. Well may Mr. Campbell remark that there is a desirable mean between a blind bestowal of absolute right and a creation of limited interest in the land.

The secret of the failure of *khas* management does not lie too deep for even ordinary research. Principles, with which the students of political economy were familiar, had been lost sight of, and in a fit of philanthropy Government was content with the assumption of an anomalous relation to the private owners of the Government. Under direct management the fostering care of the individual was wanting, while those who were most intimately concerned in the fate of the land incurred all the risks without an adequate share in the profits. The needy millions who thus lowered their heads to this Governmental Juggernaut were, if we can use the phrase, raised above the evil influence of a failure by hopeless poverty. On one side was the indifference of a public body, and on the other the unremunerative exertions of the cultivating classes of India: under their united influence land reluctantly produced a small return.

The middle classes of India, whom Government regarded as an impediment to national progress, were carefully removed, and their place was allotted to the cultivators who were destined to enjoy the advantage of the immediate guardianship of a benevolent Government; yet our first step towards the carrying out of the new policy was to create swarms of native officials and native speculators, who neither possessed ability to command respect nor honesty to win the good will of their charge. Without character or principle the Government hirelings robbed the ryots and embezzled public money, while the crafty speculators, who had only a passing interest in the land, proved even worse than the authorised despoilers of the ryot's rights: the native collectors had a longer term allowed for their nefarious work and naturally enough the average intensity of their violence was weaker when compared with that of the speculating capitalists, who had to do all they could within ten short years. Both, however, were busy in converting their opportunities into their money's worth, and in securing to the cultivators all the miseries of direct management in the shortest space of time

practicable. In short, Government has proved the worst manager of land it is possible to imagine, and after a short though bitter experience we have reluctantly admitted that the resumption laws might as well not have been passed, and that Government might well have abandoned an impossible duty for others more befitting and necessary.

Of the three great modes of 'settlement' the Ryotwar is the very incarnation of the ideas which first suggested direct management and the destruction of the middle-class. Nearly the whole of the Madras and portions of the Bombay Presidency suffer from the evils which arise out of a system borrowed from the school of socialism.

The Ryotwary is a direct holding on which payment is made at the close of the official year for land actually occupied, which holding may be renewed or relinquished at the pleasure of the cultivating ryot, while Government appropriates to itself the whole of the rent like a private individual. Government assumes all the difficult functions of a landlord and deals with the cultivators as tenants. The credit of originating this system, or as it is not unfairly called *this want of a system*, is due to a Mahomedan chieftain who sacrificed all superior land tenures in his country with the view of subjecting the cultivators to the oppression of an all powerful proprietor. Without avowing Tippoo Sahib's object we have imitated his example, and yet his notorious wealth would lead one to suppose that the system was remunerative when it was nursed by an unscrupulous despot.

That some such patriarchal mode of dealing with land should have found favor with weak minded philanthropists is not a fact for wonder, but that after nearly a century of failures it finds zealous advocates in high quarters only proves the tenacity of political fallacies. With the introduction of the Ryotwar system, middle men, the chief stay of indigent cultivators, have disappeared with their capital; and the tillers of the soil thus deprived of their natural guardians have had to lean for support on a power who could barely reach them. But government owns and appropriates the only surplus production of the land, while the Ryotwary cultivators are destined to the misery which cannot be avoided in the absence of capital.

Lord Harris remarks with pitiful simplicity that he entertains 'serious doubts' of the correctness of the opinion that the defects of the Madras land system were the chief cause of the degraded condition of the ryotwary cultivators. His lord-

ship admits their poverty and their wretchedness generally, but attributes them to the principle which he has elsewhere advocated, that small holdings render poverty inevitable. We should like to be told how Lord Harris hopes to extricate the Madras ryot from his difficulties as long as he holds miserably small patches of land under the most uncertain and capricious tenure, it was possible for human ignorance to introduce? If Lord Harris, after his admission that poverty and small holdings were inseparable, had had the courage to investigate the nature of small possessions in general, he might have succeeded in solving his 'serious doubts' as to the merits of the system so opposed to the growth of capital.

We seriously question if there is any system of land tenures in any other country in the world which renders the growth of population an unqualified evil, and whether, if such was the influence of the Madras system, that system was not condemned by that single fact? Land neglected, the natural resources of the country undeveloped, increase of population an evil, and emigration a necessity, are evils which even with men who are unwilling to trace events to their causes would carry weight and importance.

It has been computed that for each acre of cultivated land in the Madras Presidency, five are lying fallow. Land cannot be sold for rent arrears for the simple reason that land in Madras has no marketable value, and 'the contentions there begin,' says Sir J. P. Grant, 'when a ryot is forced not to give up but to take land.' In Ireland about twenty years ago hungry swarms were starving on the surface of a rich soil while the country was bending under the weight of impoverished cultivators and falling out of cultivation in the absence of men whose capital could replace what neglect and ignorance had lost.

We cannot but regard with pain the self-confidence of some men who boast of being wedded to the principle of the Ryotwar system of Madras: men who, while parading the fact that it has reserved the largest portion of the produce of land for the Government, forget to add that when compared with the other land systems of the country it is the least productive. It seems almost incredible that any one in the possession of his right senses would venture to defend the principle of a system which is kept up by compulsory cultivation, and of which the very essence is Government advances and remission of assessment. What is there to boast of in a principle which secures to us the smallest amount of success with the greatest amount of sacrifice?

under the Ryotwar system the land which is cultivated but does not produce is exempted from Government charge, and that it rests with the ryot to take up or relinquish the engagement at pleasure. This choice of liability has been styled, with what attempt at irony we know not, 'freedom of action;' the phrase may probably carry a hidden compliment to the system which admits it. But to call that *freedom of action*, which has only engendered a perilous amount of uncertainty in the fiscal department, and allowed the ryot a licence which is fatally capricious and suicidal, is hardly less ridiculous than to say of a man who had cut off his nose to spite his face, that he enjoyed a greater amount of freedom of action than those who shew a greater regard for their nasal organ.

As if the system was not essentially defective, a sudden increase of half a million of the land revenue drove Madras officers wild with a paroxysm of joy. The different causes which combined to produce this momentary relief were too deep for the comprehension of those who are too wise to doubt their convictions. Yet how they contrive to get over the matter of irrigation, how they manage to explain away the rise in price, the equitable reduction of assessment, and the first fruits of European capital and enterprise, it is impossible to surmise; but fortunately the glee-making did not endure long, and a sudden fall has again established the intrinsic worthlessness of the Ryotwar system. Whether it is safe to trust to a system so mischievously uncertain, as to admit of a fall in revenue of nearly 1,00,00,000 Rupees within two years, cannot long puzzle a mind uninfluenced by pet theories.

The amount wasted on the collectors of public revenue in Madras is said to be equal to the revenue it brings. A spiteful Bengal civilian considers it more than equal. Thirty seven thousand revenue collectors, if brave and honest men, could be drilled into a formidable army, but it seems that they are too well pleased with the judicial depredations which they have so long carried on with success to emulate the uncertain glories of war. Yet with this legion at our command concealed cultivation costs Government over half a million a year. It would, however, be unreasonable to expect any other result when needy informers and village headmen are the only checks on dishonest cultivators; when so much has to be trusted to their love of fair play, to their honesty, to their dislike of interference with private interests,

and when advances and remissions must be treated as a part of the Ryotwar system.

The absence of that immediate and effective support which a private landlord can offer to labour, and the evils which attend isolated labor in a poor country have hopelessly ruined the cultivators of Madras. Beggars can help beggars only in perpetuating mendicity, while the hopes of a 'let off' which it is fancied Government can always afford, keep poverty free from the imputation of discontent against the State.

Annual remissions and annual advances, form a sort of patch-work which keeps up socialism in the 'benighted Presidency.' If a system, which has failed in Madras, which has failed in Bombay, and which has failed whenever it was put to a practical test, can yet honestly be said to rest on unassailable 'principle,' then we say that either the principle is too deep for human inquiry or impracticable with human means. It has been well remarked 'let a village go to ruin and it *ipso facto* becomes ryotwar,' if such be the normal condition of the socialistic system, let us undertake the labor of construction, despite the difficulties which may attend it.

Call it a system or the want of a system, the conclusions to which experience drives all reflecting minds do not inspire us with hopes of its sudden success: it is hostile to the accumulation of capital, to the growth of a middle class, and it also involves the evils of a government by agents. We trust, however, that the Torture-Commission has exposed both the principle and practice of a theory of land government which at once struggled to be a policy and a philanthropic scheme.

While first principles held undisturbed sway in Madras and portions of the Bombay Presidency, a system which discounted but did not repudiate the claims of capital was inaugurated in the North West Provinces of India. With the Ryotwar system we were trying the experiment of working out social amelioration by means of labor alone, and if possible, to effect a perpetual divorce between labor and capital; in the North-West we were endeavouring to ascertain the result of the operations of labor with as small a taint of capital as possible. Yet the dread of capital is the common feature of both the systems: and it is not too much to say that the alarm with which we view the progress of capital would alone prove how incapable we were to discuss imperial questions involving the fate of the landed classes of the country.

The Village or the Community System which has obtained in Upper India, the Punjab and Scinde is the system under which a village is leased for a fixed term, and at a fixed rate to certain men who possess the rights of property in it. It was introduced into some parts of the North West in succession to the Bengal system, when we first fancied that we had obtained an insight into the evils which attended the Perpetual Settlement. The causes which led to the failure of the Community System were the division of land under joint liability of all the proprietors; the obstacles it threw in the way of capital; and the inherent impossibility of a scheme which aimed at the conversion, by means of labor alone, of needy cultivators of the soil into capitalists. The position of the small coparcenary proprietors was a perfect anomaly: unable to acquire capital under the pressure of a high assessment they had to seek it elsewhere, and in supplying their wants they disturbed the equilibrium which was essential to the existence of the 'community.' The frequent change of proprietors was cutting at the root of the very principle which was the safeguard of the 'brotherhood,' and yet the 'community' could not hold together without capital, and was not able to resist the danger to which it was subject from the interference of capitalists. Every outsider who gained admittance into the 'community' was a capitalist, and every addition to the number of such capitalists expedited the destruction of an institution which relied for safety on its successful expulsion of capital. Litigation was too expensive a means for seeking redress under a system so thoroughly patriarchal. The attempt to confine the sale and purchase of land among the copartners, who were equally poor, was for all purposes of utility simply an impossibility, and if it was enforced against the laws of property and the dictates of common sense, it reduced the value of land and the importance of the landholders.

We prohibit the sale of land to strangers because a free admission of any extraneous element into the system is opposed to the principle on which the 'Community' is founded. Thus the system, which stands so much in need of capital, and which cannot work with success unless land has a fair marketable value, is averse to the admission of the capitalists themselves. We have said elsewhere that dishonest alienation of land is to be disallowed on the broad principles of equity and justice, and we are also willing to declare that the right of pre-emption should exist in all village communities; but unless land is worth a

certain, and fair amount in money, the possession of land cannot be any object with the influential classes of society.*

The community system might have been conceived in a spirit of well-meaning charity to the cultivators of the soil; by allowing them a share in the rent of the land it conferred on them a blessing which they did not enjoy elsewhere. But the great want of the 'community' was capital, and capital does not generally grow with the speed with which a land policy may be enunciated. The well being of the 'community', which depended so much on a free and judicious employment of capital, was unfortunately entrusted to a class of men, who had neither the means nor the intelligence which could meet the ordinary difficulties of a corporate existence. Village communities without capital or settled habits were the institutions of other days, and, in reviving them in a form but slightly altered from the original, we have been guilty of a piece of anachronism which has failed of success.

A system, which worked in harmony with a political organisation peculiar to itself, could not work under a regime so completely foreign as that which we introduced into the country. That native rulers should reconstruct a land-system which native rulers had originated, would perhaps be a commendable act, provided the times needed such obsolete machinery; but for us to resuscitate it when its necessity had passed away, and when new emergencies are arising which demand a very different treatment, is a culpable waste of time, labor and capital.

The community system belongs to that purely agricultural age which ceased to exercise a happy influence on society when commerce created new wants. 'The members of a compulsory partnership,' as Mr. Mead calls the small coparceners, cannot act in harmony when the motive for union induced by external danger does not exist. But we are glad to remark that, what the Torture Commission was to the Ryotwar system, the famine of 1860 was to the village system of the North West; it put the 'community' to the test of one disturbing influence not naturally irresistible, and the system failed miserably. Extravagance to-day and want to-morrow, ruined the proprietors who so greatly needed capital and who produced it so slowly.

* "Lands do not belong to any particular family they are accustomed by sale to pass to strangers, often even to the very lowest people, because lands are not protected by the laws like guardianships." Cicero, for L. C. Balbus.

The increase of wealth outside the 'community,' and the increase of poverty within it disturb the unnatural relations which exist between the labor of the 'community' and the wealth of the outsiders. As commerce advances the 'community' succumbs to the pressure of the monied classes, and eventually disappears under their influence. How capitalists succeeded in acquiring property in communities so jealously guarded against foreign intrusion it may not be necessary to investigate here, but the melancholy fact of such intrusion is patent even to the advocates of the system which is crumbling under the revolution. Mr. Campbell has not failed to remark that the pure Zemindari 'communities' are disappearing by degrees, and the cause of their destruction is what a traditionist philosopher called 'the ever vitiating influence of capital.' It would be worth our while to inquire, whether it is necessary to resist the progress of events merely to support the decaying members of a useless fabric. If capital has in certain places permitted the 'communities' to preserve the appearance if not the essentials of wealth, the capitalists have acquired such hold over the land of the 'communities' as to extort the best part of the produce of their labor and by the application of a gentle pressure the original proprietors have been reduced to their natural position of simple cultivators.

We shall not refrain here from testing the facts which lead Mr. Campbell to hold up the Punjab system as 'a model and example for other parts of the country.' In the Punjab the community system was not only favorably received by the people, but the circumstances under which it had the best chance of succeeding were not wanting. The local government was averse to the destruction of the 'communities,' the judicial officers were called upon to watch the sale of land to outsiders, and to oppose the intrusion of capitalists among the cultivating proprietors by prohibiting or discountenancing even freewill transfers of landed property. Every circumstance conspired to uphold the corporate character of the community, and yet what has been the fate of our injudicious interference with private rights? Assessments are being incessantly revised, remissions have been freely granted, *jumma* has been permanently reduced over two fifths of the country, and the village communities are uniformly poor and helpless.*

* We regret that we were favoured with a copy of Mr Cusht's 'Tenant-code' too late to make any other use of this valuable paper beyond extracting from it matter for foot-notes. 'I do not think,' says Mr. Cusht, 'that much mis-

If they have apparently lost little by the direct transfer of land, they have not been able to keep themselves clear of the ledgers and bonds of the capitalists. Whether any partiality for these 'communities' can be defended by the statement of favourable facts, is no longer a subject for discussion: and if they are to be maintained at the cost of those who are concerned in their success, the blame of future failures should be laid on the shoulders of those who still advocate their cause.

Between property and useful property there is a distinction which has seldom been recognised by those who have legislated for the land of this country. The property created by means of the North West system was different from the property springing out of the Bengal land system in the one important particular, which rules the choice of wise men between one description of property and another. In 1793 the Marquis of Cornwallis fixed in perpetuity the annual rent payable by the land owners of Bengal. The nature or extent of the inquiry which led to the discovery of the proprietor of any individual estate in that province it is impossible at this distance of time to ascertain, but that even in those days the newly elected proprietors were not considered identical with the real owners of the soil, may be inferred from the fact of their being entitled 'hereditary superintendents of land.' They were subsequently called 'manufactured proprietors'; but considering that the creation of useful property in the soil was our object, the right of property whether manufactured or otherwise created it is not necessary to investigate here.

In return for the perpetual fixity of Government demand it was resolved that if the revenue was not duly paid, the estate was to be sold, and the Collector gave a title to the new owner without giving him possession. It was also ruled in favor of the landlord, after twenty-four years experience of the working of the new system, that he should be duly invested with the power of distraint for arrears due from the tenants, and to this necessary authority was allied the questionable privilege of enforcing the attendance of the tenant in the manorial court.

The settlement of Bengal was not fixed in perpetuity after so searching and complete an enquiry as a measure of such importance has been done yet, the settlements of Punjab proper are but just completed, and are for ten years only; but those for Cis Sutlej states and Trans-Sutlej states are for thirty years. Moreover, I fear that the average pressure of our settlement is so heavy, that there is not as yet much room for rent. We have granted reductions of lakhs of rupees, but the Price Current has fallen faster than the Revenue.

tance deserved, and while our attention was absorbed in the creation of new and valuable property in land we unconsciously over-rode other rights which existed in it from time immemorial. Subordinate rights might have been bought out, and subordinate servants might have been offered relief, but their summary sacrifice has proved prejudicial to the cause of society. Whether subordinate rights ought to have been maintained or not is a question perfectly independent of the justice of the claim of the subordinate tenants to compensation for property of which they were forcibly deprived. In withholding from men their just rights, we did not trouble ourselves with discussing the necessity for offering some relief to those who suffered by a public act. This was the full extent of the injustice committed by those who introduced the Perpetual Settlement; but the official classes, in duty bound to uphold the traditionary policy of their masters, condemn the measure, as having entailed on the government a grievous loss of public revenue. 'Such a loss of revenue,' remarks Miss Martineau commenting on the Perpetual Settlement, 'was never suffered by any government;' and this sacrifice was made, she observes, 'without any beneficial effect on the public interest as far as it is perceptible to common observation.' We doubt not that it was under some such conviction that Mr. Halliday, who seems to have been sensitively alive to the defects of the Permanent Settlement, 'proposed as a panacea for the evils which were destroying the 'rural societies' to purchase of Zemindars lands offered for sale, and by degrees to redeem the country from the curse of a fixed tenure. He was, however, candid enough to express his regret that this scheme of enfranchisement would not be carried out with the rapidity he so much desired, as land was 'but rarely' sold for arrears of revenue. A statesman without any favorite theory to uphold would have inferred from Mr. Halliday's ill-judged admission that the fixity of tenure had at all events placed the land of the country in the hands of those who could utilize it, and had removed it beyond the depressing influences which characterize the systems which prevail elsewhere.

We are also too apt to forget that the objects which we aimed at by the adoption of a Permanent Settlement have been attained without the failures which usually attend projects of land reform. We endeavoured to create a valuable and certain revenue at a time of need and perplexity, and we have succeeded in our attempt. If we have failed in other minor particulars to

which our attention was subsequently drawn, let us congratulate ourselves that on the whole we have obtained an amount of success which has not attended similar experiments in the other parts of the country. Fixity of tenures led to an increase of cultivation, created a spirit of enterprise in the owners of the soil, conduced materially to the growth of capital and of a middle class, and has rendered the relation of landlords and tenants mutually beneficial. Let us not forget that it has also to a very great extent obviated the unpleasant consequences of Government interference with individual rights. If we have in ignorance destroyed certain subordinate rights of questionable value, the measure has still been attended by a preponderance of good which cannot be overlooked; and let us now console ourselves with this universal truth that no scheme of human conception can ever be so thoroughly good as to be wholly free from evil.

Bengal owes its material prosperity to the Permanent Settlement which by fixing in perpetuity the Government *jumma* has rendered land a valuable possession. Periodical settlements were undoubtedly useful as preparatory measures for that advanced system which is embodied in the Bengal settlement. Periodical inquiry into the character of the different tenures and the quality of the soil has led to that intimate acquaintance with the productive capacity of land and the utility of subordinate tenures which will lead to the exercise of an equitable discretion in adjusting the claim of the different classes of proprietors. If fixed assessment for a term of years is preferable to an uncertain tenure, the settlement once for all of Government demand is preferable to a fixed demand for a limited term. 'The only part of the country where land brings prices equal to those in England is the province where land is held under a Permanent Settlement.' 'In England,' says a writer in the *Times*, 'there is many an acre of land that would not be worth a pound under a limited tenure which is worth thirty or forty pounds as unconditional property.'

Yet Bengal does not possess the monopoly of rich soil, the fruitful Doaba are populated by a hardy race who are accustomed to a life of labor for which the natives of Bengal are unfit. In the North-western Provinces a steady though slow rise in the price of grain from 10 annas per maund caused the loss of thousands of lives, while in Bengal a sudden rise in the price of rice from fourteen annas to four rupees and four annas per maund simultaneously

raised the price of labor! Let us compare the income tax receipts of Bengal with those of the sister Presidencies; let us also mark the proportion of direct to indirect taxation in the several provinces of the empire, and we shall have two important facts before us, which could only be explained by reference to the systems of land tenures under which the soil is owned in the different Presidencies. In Bengal, the proportion of direct to indirect taxation is as four is to nine, and it is also there that the price of labor is steadily and rapidly on the increase; no argument ever so elaborate can so satisfactorily establish the advantage of fixed over uncertain assessment of Government demand as the results which we have just cited.

It cannot be denied that enterprise and capital cannot benefit land unless property in land is full and free. Some of the richest estates of Bengal have been sold and resold by Government, owing partly to the strictness in the liquidation of land revenue, and partly to the action of the Civil Courts; but land has gradually passed into the hands of men who have accumulated capital and who can happily resist both the calamities of season and the depredations of the law courts.

A great revolution has silently swept over the courts, and society has reaped from it advantages which it would be easier to repudiate than to disprove. On the other hand, had Government arbitrarily interfered with the transfer of property from a prodigal to a thrifty class of men, the laws of nature would have asserted themselves and human enactments would have succumbed under a force it was impossible to resist. But the action of capital being free, and labor allowed to justify its rights to a share in the general prosperity, the relation between capital and labor was regulated by those laws which render them mutually necessary and their combined action beneficial to the community at large. Under the village system of the Provinces, an attempt to adjust the claims of labor and capital could only end in the sacrifice of the system itself; restrictions were therefore imposed and the system was saved at the cost of national progress.

The Perpetual System has developed the tendency which in every prosperous country leads to the destruction of unremunerative cottier farms and to the formation of wealth-producing estates. Remissions of public revenue are scarce in Bengal; Government revenue is realised with ease and punctuality and the capital of the landlord has materially weakened the chances of a sudden collapse of the system under ordinarily adverse influences. Within

the last four years the average amount of revenue realised from land in Bengal has exceeded ninety-six per cent of the demand; as private income increases with cultivation and rent weighs lightly on land we shall hear less of defaulting landlords and more of flourishing estates. The ryot himself feels the coming change: if he is not better off than he should be, we feel no hesitation in stating that he is better fed, better clothed and better housed than the same class of men under the systems which boast of 'first principles', and enmity to so-called conventionalism.* The philanthropists who regret that the land tax cannot be raised so as to afford means for the reduction of indirect taxation seem either to mistake the nature of wealth or misunderstand the nature of the change indicated by an increase of indirect taxation.

Commerce and the arts of life advance at a pace with which the progress of agriculture cannot compete, and it is therefore by no means an easy task to determine the proportions according to which manufacture and agriculture should divide the taxes of the country. Even those who have but cursorily dwelt on the subject admit that any continuous though gradual increase of land tax would soon render the burden on land inequitable, and to our mind it is an undeniable position that the system which would lead to the increase of capital among the landed gentry would also enable the country to bear with elasticity an increase of indirect taxation and to add to the resources of the tax-paying multitude.

With such facts before us we would strongly recommend the adoption of the Permanent Settlement throughout the country. Wherever we have completed a correct scientific survey of the culturable land, and land tenures have been thoroughly investigated and the results placed on record; wherever the periodical settlement has worked with success, and the country bears the signs of wealth, the permanent limits of Government demand should be at once offered to the landholders as the main condition of the newly proposed settlement. If it be necessary to proceed with greater caution, let us restrict the introduction of the Perpetual Settlement to the naturally favoured tracts of the country, and where a well grounded prosperity has prepared the land for the change. Sir Robert Montgomery who has styled the

* 'The prosperity of the rural population,' remarks a native journal, 'is evidenced in their better clothing, a considerable improvement in their physical appearance, and a corresponding change for the better in the condition of their cows and oxen.'

Permanent Settlement 'a blessing,' considered the landholders of Cawnpore ready to accept a permanent settlement at any temporary sacrifice; * and unless we deceive ourselves this feeling in favor of the change is not confined to one district; wherever it is publicly offered by the Government as a policy which has only to be accepted to become the law of the land, it will be welcomed by the people as an ~~unqualified~~ boon.

Light assessment which has been so recently acknowledged as essential to the success of land settlement, will expedite as well as justify the necessity of the change we so heartily advocate. Government has ruled that the assessment under the new settlements should be reduced by from sixty-six to fifty per cent, and the order was received with universal commendation. It is hoped that such a reduction will place a valuable profit within the reach of the cultivator, and that the savings of a few years will prepare him for the change which we propose to carry out.

With the Perpetual Settlement in force we shall have to take leave of protective legislation for land, and, having created a valuable property for the landlords, we shall be perfectly willing to leave the 'communities' to fight their own battle. As rent weighs lightly on land, and indirect taxation brings the native commercial classes under the influence of the Financial Department, the landed interest will enjoy the advantages of a reform which will not disturb the prosperity of the classes who have hitherto enjoyed an unfair immunity. And thus we shall realise what Miss Martineau in her dreamy 'suggestions' calls 'the reduction and re-arrangement of new and increased taxation to enable us to reduce the tax on land.'

In the Punjab as well as in the North-West there are certain tracts of land so fortunately situated in every respect that even the most timid would not scruple to introduce there the Bengal system of land settlement. One of the most important and certainly the most immediate result of the introduction of the Permanent Settlement will be, that new lands will contribute to the public exchequer and thereby lighten the burden on the old. As agricultural wealth steadily increases and capital accumulates in the hands of the landowners, we shall have less and less to fear from those terrible visitations which press so fearfully on the lives and means of the poor. In the Madras Presidency, where the cultivators are too poor to incur the risks which attend even an

* We quote at second hand.

ordinarily long lease, we should as a preliminary measure reduce the 'assessment,' and by short periodical settlements prepare them for the perpetual fixity of Government demand.

As the temporary settlements lead to the permanent so does the permanent settlement prepare the way for a higher blessing. Under the native rule the expenses of the State were defrayed from the receipts of land tax, and the other sources of income, if any, were only supplemental. And even now, after a century of British rule, nearly half of the imperial revenue is derived directly from the soil, and the landed interest bears the weight of public taxation; with the progress of commerce, however, we trust the tax-burden will be equitably divided among the different classes who owe their prosperity to public security. The representatives of commercial and professional industry should each bear its own liability and thereby lighten the average weight borne by the various classes, who are all equally indebted for protection to the Government of the country. Any marked inequality in the distribution of the aggregate weight of public taxation is likely to affect public credit, and the inequality in favour of one only increases the danger of injustice towards the rest. The land system which commenced with a periodical and has passed through a permanent settlement, must end with the redemption of land revenue. We must facilitate the formation of profitably large estates without any of the harrassing conditions which short-sighted land legislation is likely to impose on them.

The author of the pamphlet entitled 'the Land Revenue of India' while advocating the perpetuation of the land tax as it now stands, remarks on its origin as follows: 'so the tax of armed aid levied on the land was long paid in kind, but as man became valuable as a wealth-producing rather than a fighting animal, the tendency to commute such service for a money payment gathered strength till such commutation was the right and ordinary custom of all. Thus originated the land tax.' The writer who makes distinction between a fighting animal and a wealth-producing animal might have with advantage extended his observations to the increasing importance of trade and growing facilities for exchange, and also distinguished between the ordinary wealth-producing and the *commercial* wealth-producing animal, who is also the champion of national progress and social reform.

As a nation advances in commerce and the arts of life its domestic economy progresses towards artificial perfection, and

as every obstinate resolution to divide the burden of the public tax equally between the fighting animal and the agricultural animal would eventually lead to injustice on the former, so any attempt to divide the tax-burden between the agricultural and the commercial animal, unless in proportion to their respective abilities, would lead to the decline of agriculture, and so also in the long run to a falling off in the raw materials which supply the staples for commerce. We must therefore relieve the agricultural animal of a portion of his burden and place it on the shoulders of his consort whose vigour is on the increase and whose powers of endurance have improved at a pace unknown to the comparatively weak vitality of agriculture.

We must therefore allow capitalists who own land to redeem it from State dues, and thus to stimulate the progress of agriculture and the increase of agricultural capital.

It is not unlikely, as has been freely prophesied, that at first the power of redemption will not be used to any remarkable extent; but there cannot be a doubt that, as peace and intimate commercial alliance with Europe brings native society into that tranquil condition which is so propitious to prosperity, those who will have amassed wealth will not be deterred from availing themselves of a power to confer a lasting good on themselves and their country. Since we are not necessitated to discuss the intrinsic merit of the measure, and the objection to it rests on the grounds of expediency; let us but concede the privilege of redemption in favor of those who would profit by it, and we flatter ourselves that it will not be long before the moneyed classes evince an anxiety to relieve themselves of an impediment which seriously hinders the growth of capital. Of rent-free estates the author of the pamphlet on 'Land Revenue' remarks that they are not flourishing, and that they are not a bit better than the 'liable' estates; but he admits that they bring to their owners 'full three times as much.' We must confess that it is a satisfactory feature of the policy which created rent-free estates that the properties they brought into existence have been productive of some good to certain classes of society if not to the government itself.

The success, which, sooner or later, must attend the redemption of land revenue would be rendered intelligible to those who have an interest in the success of its operations by a study of the most important maxim of land economy: that the more property in land is burdened with restrictive conditions the more we

weaken its productive power. Let land be redeemed for twenty years' purchase, or at any other fair valuation which the Government after inquiry may prefer; let every landlord who redeems his estates receive a clear and incontestable title of proprietorship. The rules promulgated by the Government of the late Lord Canning are perfectly feasible and the conditions generally are so far equitable that a Committee of the different Local Councils may revise them if such a step be calculated to inspire the public with greater confidence in the measure. We have attempted to explain only the leading principles of the reform which is to render our system of land-government as perfect as circumstances admit of, and if there be any difficulties in the details, they are neither so great in number nor so formidable in character as to afford any cause for apprehension.

Of estates paying a *jumma* of a thousand rupees per annum or under, we might allow the immediate redemption; the rest might be redeemed by fifths or tenths as may be deemed necessary. But in all matters relating to the details of the redemption bill, the committees of the Provincial or the Presidency Council ought to be the best judges.

Every landlord who redeems his land gives a new pledge of loyalty to the government of the country; he stakes his all with the government which has given him the power to redeem, while he adds materially to the existing taxable resources of the country which have hitherto had so little aid from indirect taxation. On both these points the author of the 'Land Revenue' offers remarks which deserve a passing notice. On the subject of loyalty, he is of opinion that those who bought land could not be more loyal than those who bought Company's paper-money. But as regards wealth, number and importance there are no common grounds of comparison between landlords and 'paper-money' holders. Furthermore, an imperial guarantee would replace 'paper-money,' but could it compel a foreign power to give up lands belonging to private individuals in India? The writer also observes that any further increase of indirect taxation would fail in India; but it may be just as well to remind one whose attention is completely absorbed by a hobby, that the India of 1860 is not the India of 1850, nor is the policy of Her Majesty's government identical with the 'tradition' which studied to complicate land tenures by the introduction of injudicious rights, and to simplify public taxation by confining the demand chiefly to land. 'Because,' also remarks the writer with

evident regret, 'when a man has redeemed his land his ability to spend would nowise be increased, so that indirect taxation would not be stimulated by the drain of capital'. To this piece of wisdom we would observe in reply that, few men would venture to lay out their last farthing on the redemption of land and, that even if men were rash enough to do so, the savings of ten short years would make up for a drain which cannot recur. But we should like to ask the writer of the 'Land Revenue' question, if the contingency to which he alludes with pain if not alarm, is at all consistent with his prophecy that the redemption of land revenue would not be popular with the natives?

The general principles, on which we support a Perpetual Settlement apply with ten-fold force to the redemption of revenue, and in connexion with this subject we beg to make a few observations on the sale of the Fee-simple of Waste Land.

A Secretary of State may be privileged to dream according to his fancies, but neither the dream nor the fancies can alter or improve the following stubborn facts which have been placed at our disposal; that not one-fifth of the cultivable land of India is cultivated; that Madras abounds in wastes on 'first principles'; that Bombay and the North West Provinces fare but slightly better; that the Punjab can offer to enterprise unreclaimed land of unrivalled fertility, and that millions of acres of the richest soil in the world which would enrich British Burmah are still neglected. These are facts which cannot be contradicted despite all the ominous auguries of men in power.

The rules published by the Government of Lord Canning on the subject of Waste Land have been accepted generally as favorable to enterprise, and to them may be added this provision, that the valuation of land be left to the local Government of each Presidency.* We agree with the late Lord Canning that the fewer the restrictions we impose on the sale of land and the more we increase the facilities for land seekers to purchase Government wastes the greater the extent to which the measure will operate beneficially. We shall only recommend here that the

* We have since read and approve of the reply of the Government to the Calcutta Land Association that 'It certainly was not the policy of the resolution absolutely to confer the ownership of the most desirable waste lands, at a price very much below what the public are willing to pay for them, on those who from their personal acquaintance or connection with the locality may have the best opportunity of obtaining information regarding them, and thus of being first in the field with their applications.'

proper valuation of land be carefully attended to, otherwise speculation will restrict the effects of a reform which is intended to benefit the agricultural interest of a large empire. But we should also be on our guard against injudicious interference with the rights of individuals: we should not restrain by any condition the purchaser's action or guide his judgment in dealing with his property. The owner of waste land is to be treated like the owner of cultivated fields; he must consult his own interest both as regards the extent or the means of cultivation; if it may seem to his advantage that the land should continue an unreclaimed waste it is not for Government to induce him to abandon his resolve; whether for good or for evil his property in land should be as unconditionally his as any other form of property; and if it be his choice to be content to allow his capital to waste or stagnate while progress is working miracles of prosperity around him, his choice concerns none but himself.

The writer of the 'Land Revenue' regards with dread the unconditional sale of waste land, because even when penalty is attached to neglecting cultivation the land is allowed to lie fallow; in short it seems to us that the writer would rather that the land was locked up, as it has been for more than a century, and wait for the good times when the 'community system' and the right of pre-emption shall have come to its rescue. 'Speculators,' he adds, 'would invest in land, till the most favorable frontage, and then wait patiently till the price rose so high as to tempt them to sell.' Considering the extent of waste land which is available, the foolish 'speculator,' must wait 'patiently' for a very long time to profit by his speculation.*

It is not enough, however, that waste land should be sold and cultivated land be redeemed, but we must also provide for the most profitable disposal of the income which the State may derive from these two sources. Public journals have long declared their views on the subject, and we have resolved after some reflection, to support the scheme which public opinion has so unhesitatingly recommended. The proceeds of the sale and redemption of Government land can only be honestly employed in

* Sir Charles Wood in his despatch on the subject overlooks facts and draws inferences which are necessarily false. It is painful to enlighten the Secretary of State for India on matters so well known, and on which it is so important that Government should arrive at some definite conclusion. That there are waste lands in India of which Government is the sole proprietor, and that European capitalists are not the scourge of the country are facts which we would not attempt to prove, even if it were to edify a Right Honorable Secretary of State.

extinguishing Government debts and in constructing works of public utility. The details of the scheme must be left to imperial legislature, but we may be permitted to offer a few words in defence of its general principles.

'The capital represented by the land at twenty years' purchase amounts to about four hundred million pounds sterling, while the Government debts and the Railway guarantees do not amount to one hundred and fifty millions. The savings of the interest on the public debts would not be a greater blessing to society than the indirect influence of land-redemption in alluring capital to the labor market; yet the amount of interest saved by the extinction of the public debts would go some way towards reducing the chances of a new loan, and even if the necessity for one did arise a solvent exchequer would afford no ordinary facilities for future loan operations.

To allege that the temporary clearing off of the Government debts is not likely to confer any lasting benefit on the public is simply the affectation of wisdom. But even if such were the truth, to put off a certain good for a remote contingent evil bespeaks an amount of sensitiveness which cannot be productive of good to the public. The advocates of the old school have even gone so far as to assert, that not only does a temporary liquidation of debt do no good, but that freedom from debt cannot but be ephemeral; it is impossible, they say, so to reduce the amount of public debts as that they shall not assume their original bulk before long; it would have been more satisfactory if the advocates of public indebtedness could prove that the increase of public debt was the unavoidable consequence of its decrease, and that its decrease is only the first step towards the evil we hope to avoid.

But the lovers of paradox avoid the test of facts and rest contented with declaring magisterially what they consider a political aphorism. We do not mean to deny that public debts have increased after a temporary clearance, but neither can our antagonists deny that public debts have increased without having experienced any previous relief; we are not unconscious of the dangers of the position where public receipts decline and public disbursements increase; but a decrease of income by the extinction of liability is no decrease at all, while it is an undeniable position that whatever honestly facilitates the contraction of new debts places at our disposal a power by which we may meet the wants of any ordinary exigency without danger, if not with ease.

If a portion of the national debt can be wiped off by the sale of a portion of the public land, by attempting to retain both land and debt we only incur the liabilities of public trust. Again, if the public are willing to raise a decreasing debt to what they may regard as the standard amount, they are welcome to exercise their judgment in the matter and choose the situation best adapted to their taste and ability. When you pay off your debts, we are told, you are unconsciously getting through your capital; to this judgment we cannot give assent, the resources of a Government are the resources of its people; if it be true that in getting rid of public debts the Government is unconsciously going through its capital, is it less true that the periodical payment of interest on these debts is also a slow process of getting through an increase which would otherwise add to the national capital?

That a full exchequer leads to war, is another aphorism replete with 'traditionary' wisdom. We do not, however, propose to sell land merely to fill the public coffers, or when we have filled them to empty them by running headlong into war; on the contrary, we propose that the imperial government should immediately appropriate the extraordinary income to the use of the State. Indeed, we cannot bring ourselves to believe that any Government, inspired with British good sense, can be so wantonly prodigal as to indulge in war merely because it has the means to prosecute it. Let us suppose, on the other hand, that we were driven to a war against both will and conviction when we had not the means to withstand the drain consequent on it, would it not entail on us the necessity of new loans? and if so, is it at all times an easy matter to borrow with an empty exchequer and from an impoverished people.

It has been proposed that the proceeds of the sale of waste land should be exclusively applied to the construction of public works. To assert that we thereby exchange permanent sources of revenue for works of utility is nothing less than a fact, and in a qualified form would not be wanting in wisdom. Waste lands are at present not a source of income, and may therefore be regarded in the light of so much unemployed capital. That public works would increase the welfare of the people before they would add to public revenue is by no means an objection to the construction of public works; to some extent the savings or income of every individual subject may be reckoned as public property, and for all practical purposes under a constitutional

Government the identity is perfect. To regard with unbecoming jealousy the construction of public works for no reason more cogent than that they have a tendency to raise private income, and yet to acknowledge the paramount necessity of such works is keep to the public mind in an undesirable state of indecision. It would seem under the circumstances that Government do not object to the construction of public works provided their costs are not charged against the imperial revenue, and provided also Government be entitled to their full share in the increased rent which such public works are likely to create.

That the Government of this country is peculiarly situated as regards public works, and that this peculiarity is solely due to its assumption of the duties of universal landlord, are facts. But the admission only proves that the injudicious competition of Government with private enterprise, has driven the latter out of the field at a loss to the public and the Government with whom it would be a hopeless struggle to compete; let us, however, in justice to ourselves refrain from charging the unofficial public with apathy and indifference, when what we require of them is a fruitless sacrifice. If the construction of public works is entrusted to the Government as universal landlord, then they cannot renounce the duty without also renouncing the privileges of the position. If the relation of Government to public works be anomalous, it is only the result of an anomaly which was perpetrated when Government assumed the duties of universal landlord.

Before however we concede the right of redemption of revenue and extend the Perpetual Settlement to the 'Provinces,' unless we are anxious to revive the errors of the past, let us complete an accurate registration of tenures and a correct survey of each man's holding.* Lasting tranquillity in Bengal can only be secured by reducing all matters relating to land to a condition of certainty which would leave no room for useless discussion. Indeed, if the rent struggles are not to be perpetuated, if the friendly relation between landlord and tenant is not to be disturbed, and if litigation for land is to cease to be a matter of pure chance, we must have a record of right and a survey of each estate.

When the multitude who connect their destiny so intimately with land, shall have been fully impressed with the salutary

* What Mr. Caut calls 'a Domes-day book in which every right is more or less correctly recorded.'

conviction that their relation to one another and their relation to the soil have been so clearly determined that it is no longer safe to indulge in law suits with hopes of harassing the judge and the defendants, the law courts will afford relief without becoming partisans of either one party or the other. We must no longer grant judicial decrees for the possession of fictitious property and of property which it is almost impossible to identify. If Bengal has been saved from the rough manipulation of the revenue collectors, it has been ridden over rough shod by the civil judges who have laboured so assiduously to confound rights and prolong litigation. Some of these evils to which the judicial officers have been led in their mistaken zeal for redressing fancied evil have passed all remedy, but interests still unimpaired may be protected by the adoption of the means which we have cursorily suggested.

We should not be so short-sighted as to withhold the means for restoring peace to one of the richest provinces of the empire under the conviction that our connexion with the land has been severed by the Permanent Settlement, and that by the redemption of public revenue it would still further be estranged. Such a policy, if it ever was earnestly conceived, betrays a want of power to distinguish between the duties of a government, and the duties inseparable from the exploded system of universal landlordism. We do not for a moment doubt that land will gradually pass out of the immediate control of Government; but are the people to have no part in governing themselves, in preserving the public peace, or in providing for public safety? If not, then let us abandon the attempt to amalgamate two distinct duties in the vain hope of destroying the evil which is common to both. Whether as governors of the country or universal landlord, public peace is our first and most important charge and public disorder the danger of both the government and the public.

Thus, we advocate the redemption of land revenue wherever the Perpetual Settlement has obtained, and the Permanent whenever the periodical settlement has worked with success; we would further propose that Government should not permit any land to be held *immediately* by any tenure less certain than a tenancy of fifteen years, and with the aid of a light assessment it will not be necessary to repeat the experiment before the country is prepared for the only system of land government which has worked with success.

Having discussed thus far the subject of land tenures we shall now turn our attention to the tenants themselves. For all practical purposes it will not be necessary for us to take cognizance of any other description of tenants beside the two which differ from each other on points of material importance. We shall treat of tenants with rights of property and of tenants without the rights of property: of land proprietors on one hand and land cultivators on the other: of Zemindars, Talookdars and other great proprietors who are said to lord it over every thing and the 'injured innocents,' the ryots who are being lorded over.

Whatever may be the origin of our dread of capital, the fact is pretty clear that we do not regard with any favor the landed proprietors who are almost identical with the capitalists of this country. It seems to us that having once treated them with undue favor, we are anxious to atone for past errors by an undue distrust of their present motives and conduct. Having created them lords of the soil it were a matter of political conscience not to revive any discussion on the equity of their proprietary claim. It would have been consistent with justice to have recognised their importance in the social economy—chiefly in their relation to land—and watched the results of the system we had so hastily inaugurated. The course adopted by us was very different indeed; overcome by the clamour of those who had been unjustly sacrificed to hasty legislation, we proceeded to remedy the evil by declaring a crusade against both the ryot who had been injured and the landlord who had reaped the advantages of the injury; and we must confess that the war was prosecuted with a vigor which threatened to end with success. We were of a sudden troubled with a consciousness of the rights of the subordinate tenants, and were resolved therefore to destroy the superior rights which had become so distasteful to the injured cultivators. For the last fifty years we have generously exerted ourselves in redressing imaginary evils by the sacrifice of substantial good. We have uprooted the gentry of the soil and hoped thereby to avenge the cause of the distressed cultivators; we have persecuted the landlord to avenge the calamities we had heaped on the peasantry. In fact our policy has been that dangerous worship of expediency which in a slightly qualified form would favor the cause of every needy plunderer. We have even gone so far as to object to the very wealth of the lauded proprietors; that their profits were large, was in itself considered a grievance; and as if Government had discharged all its public duties to perfection, we reproached the

landlord with not fulfilling the just expectations of the State. It would have been fair if we had extended our enquiry beyond the creatures of the Perpetual Settlement to those of the land systems of the other provinces, and endeavoured to ascertain the extent to which they had fulfilled public expectations.

If Socialism is in reality to be the basis of our domestic policy, let property be interdicted without any exception or condition at all; for, do what we may, it is impossible to effect a compromise between large property and no-property, and to elect in favor of small property as the golden mean. The policy of compromise has failed hopelessly; we have ruined the owners of useful property, without raising the serf, who had nothing but his labor to depend upon, to the status of a landed proprietor. The private wealth which we melted down with so much care has not reappeared, as our statesmen flattered themselves it would; but who can deny that its destruction has neither improved the social condition of the oppressed ryot, nor increased the revenue of Government? We have destroyed that class of men in whose enterprise was our best guarantee for the progress of society, and to fill up their places we have raised a large body of avaricious speculators with but a temporary interest in the land of the country, and we have also constructed that cumbrous official machinery, which seems to us to have been specially contrived for the absorption of Government revenue.

Madras, whence nobles and capitalists have alike disappeared, presents a spectacle for which even the most devoted advocate of socialism was not prepared. Lord Harris admits all that can be said against the Ryotwary system when he declares, that innumerable small holdings must necessitate poverty and social degradation. Even in his zeal for a favourite theory his lordship was struck with the fact that 'active measures of improvement on an extensive scale, did not exist in Madras'. It would have been too much for his lordship to confess that in the Madras Presidency we had realised the very ideal of our land policy, but that such was the case may be safely inferred from the fact that the Ryotwary cultivators have not the means to incur, with any chance of success, the risks and liabilities of an ordinarily long lease. With all the influence of a powerful Government arrayed against him, with social prejudices to combat, and with the suspicious attention of the judiciary fixed upon him the capitalist abided his time and successfully asserted his right against an opposition which was directed not more against

him, than against the laws of supply and demand. As it was impossible for him to endure the burden of 'first principles' he left Madras to its fate, but into the 'community system' of the North West Provinces, where property of a kind does exist, he has made his way despite legislative restrictions, and the terrors of socialism. The influence of capital endures longer than the influence of labor, and, even in a mutually destructive struggle, capital has to some extent the advantage over its antagonist. The capitalist can no more confound his functions with those of the laborer, than the laborer dispense with the aid of the capitalist; and when property in land gravitates towards capital, whatever ignorance may say to the contrary, it is only the natural process by which capital acquires that control over labour which will result in the welfare of both. To view a course of progressive action with alarm is certain proof of the want of capacity to distinguish between a revolution which leads to reform and that which ends in disorganization. A surgical operation may be painful without being necessarily fatal.

In certain parts of India the absence of capital has led to consequences, which only demonstrate the folly of excluding it from a society purely agricultural; while its necessity has never been so clearly or strongly demonstrated by any other fact, as that the destruction of men or property, who possessed the confidence and respect of the people, has brought into existence men who started in life as speculators and have achieved wealth and a so-called position without influence or popularity. In Ireland even agrarian atrocities have not disturbed in their possession of land capitalists who are, even now, the abomination of the most careless peasantry in the world. Capitalists have no doubt tried to make the most of their opportunities, and if only the ryots had not been too helpless to propose terms, the remuneration of capital would have been less unreasonable, while labor would have had more than merely the leavings of capital to content itself with; as matters now stand, capital has had every thing much in its own way, but it is impossible to believe that it will long domineer as it has and treat the claim of labor with lordly disdain. Under any circumstances, let us be fair in our treatment of important interests, and let us not carry our opposition to capital too far in our zeal to restore the lost equilibrium. If in India landlords have mistaken their interest, they have followed the unfortunate example of the Government of the country with perhaps this immaterial difference, that while the Government finds complete justification of its conduct in its laws

and regulations, the landlords extort all they can without acknowledging the necessity of any justification at all.*

It certainly cannot be considered dealing fairly with the interests of the landlord to treasure up in our minds his oppression of his tenants, and to neglect the importance of his wealth to the country. We all admit that even the speculators themselves have done all they could to keep up cultivation. The deficiency of farming capital has arrested the prosperity of the 'Provinces,' while the repulsion of capital from land in Madras has reduced that Presidency to hopeless beggary. Advances are preferred to that natural support which capital would freely afford to labor, but for the meddling spirit which keeps them asunder. So strongly has the necessity of this union declared itself that some of our best fiscal officers have proposed to lease the land of lazy communities to capitalists who may possess the means of improving it. If capital is to allure wealth out of the ground; if capital is to increase the demand for labor, and if the country is to look to capital for its most effective means of advancing material prosperity, let us treat with some consideration men who are armed with this power, who, while endeavouring to further their own interests, also benefit the interests of society.

Though the principles which we now advocate have been accepted in Europe as the best guide to substantial and permanent prosperity in India, we have struggled to inflict on society some of the choice theories borrowed from the school of socialism, and have persisted in our attempts to reduce to one dead level the wealthy classes of the country.† But the signs of

* Mr. Ruskin would undoubtedly observe here that the landlord ought to 'die' rather than oppress the ryot, because 'rats, or any other animals support themselves by laws of demand and supply and the distinction of humanity 'is to live by those of Right.' If Mr. Ruskin could only convince the landlord that it was for his advantage that he should prefer death to oppression, we doubt not the landlord would gladly abide by Mr. Ruskin's 'Laws of Right'. But in the meanwhile selfish interests interfere and disturb the righteous state of mind to which Mr. Ruskin's philosophy might otherwise bring the landlord.

† The 'Flaneur' who gives us his impressions of 'Ten Years of Imperialism in France,' adds to our conviction that the French have not as yet been able to account for their prosperity under Napoleon the Third: 'The principle,' says the Flaneur, 'that it is the duty of the State to interfere in the relations between capital and labour in favor of the latter as the weaker of the two, was not only avowed by the Government of 1848, but acted upon, although, as every one knows, with little success.' This is just what the Republic did avow and the Empire has justly disclaimed.

health are not less visible than the signs of disease. Labor is by degrees relinquishing its weak hold of property; it can only improve when it ceases to own it; labor is gradually yielding to capital and intelligence what is their due; the miserably small farms are falling in; large farms are coming into existence, and the price of land increases the value of labor. Land is being placed under circumstances eminently propitious to the growth of capital.—Prosperity will thus spread over the land, and the ‘Revolution’ to quote the words of the late Colonel Baird Smith, ‘will advance just as surely, as in the struggle of life industry, thrift, intelligence and wealth must displace indolence, extravagance, intellectual stagnation and poverty.’

It is time, however, that we should repudiate socialism and regard the landed proprietors as an element of strength in our government. It is time that we should recognise their position even if we cannot forget our joint misrule of the subordinate tenants. The landed gentry are the only aristocracy of India; the lower classes look up to them, and by securing their allegiance we secure the allegiance of their natural constituents. It is the landed proprietor who best can aid government in times of trouble, directly by capital, indirectly by local influence; the ‘people’ so called, have ever been the advocates of revolution, while conservatism is the chief cause of the prosperity of the moneyed classes; the landed capitalists raise the demand for labor and consequently the remuneration of labor*; to their leisure we look forward for the mental improvement of the natives and to their social influence for security in times of innovation; speculation, involving preparatory outlay, depends on their assistance and their efficiency as a public body depends on the efficiency of the law courts, and the efficiency of the law courts is the best guarantee of their safety. The destruction of the landed gentry in India is virtually the destruction of capital, intelligence and social prosperity.

And yet such was the class of men that received a rude and rough treatment at the hands of Government, a treatment which Government attempted to justify by its belief in the practical efficacy of the social philosophy. Instead of inspiring

* Mr Neate in his ‘Lectures on Taxation’ has adopted some of Mr. Ruskin’s visionary principles of practical economy, and instead of attributing the rise and fall in the rates of wages to the increase or decrease of capital compared with the demand for labor, states that the minimum rate of wages depends on the interest, humanity and fears of the employer.

them with confidence in the rulers of the country as their benefactors and protectors, and the cultivators with confidence in their landlords as their best friends, we have condemned the landlord as a heartless tyrant, and we have taught the ryots to cry down his character and to resist his authority. An Irish landlord in addressing the present Sir Robert Peel teaches us a lesson which we might have with advantage learnt long before: 'drive them,' says he, speaking of landlords and tenants, 'to look for their security alone in mutually beneficial 'covenants for fostering the improvement of the land.' But to our policy nothing appeared so repugnant as to create harmony where we were resolved that discord should prevail.

As if the indirect influences for evil were not numerous enough, by a recent Act (X of 1859) we have armed the ryot with the most successful means of worrying his landlord, and the facts that have recently come to light seem to prove that the ryots have not been backward in using the weapons with which we have so philanthropically entrusted them. Those who in utter ignorance of the subject passed a land bill, which has virtually guaranteed impunity to intriguing tenants, have much to answer for. As a rule a landlord has now much to fear from his cultivators, and the less inclined he is to use fraud and force the more helpless he finds himself in the hands of his antagonists. Those who have watched the working of the Rent Act have been filled with alarm as to its ultimate consequences; while one of their number has prophetically remarked that it will 'develop 'all the worst features of the Bengalee character.'

The sections XVIII and XIX of this prodigy of legislative blundering are evidently intended to create in Bengal the constitutional slavery which is rampant in Madras. If ever an act of the Indian Government was calculated to inflict serious injury on the proprietors of land, this masterpiece of misguided philanthropy is likely to accomplish that result. If our apprehensions are not justified by facts we shall gladly award to the ryot the credit for an amount of disinterestedness and a love for fair play, to which, we have not hitherto thought him entitled, and which the Rent law is not likely to foster in him.

The Act in question is not even a negative good: it facilitates the growth of contentious rights and thereby raises points of dispute between landlords and tenants which must end in harassing litigation; but those who consider it necessary that

the landlord should not exercise any authority without the aid of the law courts, must idolize the Rent Act as a piece of perfect legislation. We could almost fancy that to create dissension was the very object of the Rent Law; but those who have been so thoroughly deceived as to call this Disruption Act the Ryot's Magna Charta may some day learn to distinguish between licence and that liberty on which well organised society is built. What strikes us as a most wonderful piece of ill luck in our land-legislation in India is the fact that the experience of the past does not seem to light our way into the future, and that each epoch of our century of Government seems to be independent of the rest.

The principles which the Rent Act embodies were in force sixty years ago, and the fruits they bore might have warned us against their hasty adoption a second time. So far back as 1799, we discovered the danger of alienating the landlord from his tenants, and, acting under a wholesome experience of past mischief, we inaugurated a regime, which, as it worked for the benefit of the two classes, who had hitherto been arrayed against each other, was productive, as far as our law courts permitted, of prosperity and good-will between them. We had to a great extent recovered from the rude shocks of class-hostility, when the Rent Act came into operation and once more revived the contest between the owner of land and the owner of labor; once more the landlord was to treat the ryot as a traitor in the camp, and once more the ryot was to arm himself against the landlord as a determined tyrant whom it was a matter of conscience to baffle. We have for a second time in the history of our rule in India treated the interests of Government after one code of justice and equity and the interests of the landlord after another.

We have it admitted on all hands that the poverty of India must be cured by British capital and British intelligence. It is also alleged that British settlers will increase the price of labor, and one of the most enlightened of our Indian statesmen regards 'their presence in the country as beneficial' and, politically speaking, of 'the highest importance.' But is it reasonable to expect that British energy and capital could flourish in a country where they must hopelessly war with men whose co-operation is the *sine quâ non* of mercantile success? Is it possible for British settlers to hold their own against a clique powerful in numbers and supported by the undisguised sympathy of our

legislature? Landed proprietors do not beg for any encouragement beyond a spirit of fairness in the public measures of our Government. The ryots will not co-operate with them as long as we hold out to the ryots the mischievous hopes of equality with their landlords; and yet the necessity for such co-operation is daily increasing, and before long we shall have to decide whether capital is to forsake labor, and labor to suffer by the loss of capital, or whether we shall permit the landlords to exercise their natural authority over their tenants?

Let the ryot look for help and protection to his landlord, and to his Revenue Collector for redress against the oppressions of the landlord. But the landlord must be armed with the power to distrain, though that of compelling the rent-defaulter's presence before him must be taken away from among the privileges of his position. The right of distraint belongs to the landlord who is expected to live in harmony with his dependants; but in India, where the creation of so many useless and mischievous rights in the soil has rendered the power of distraint of such importance to the landlord, government has withheld it from him, and yet it has retained for itself this authority in its capacity of the universal landlord. Such anomalies must cease, and the dangerous tendency of the Disruption Act resisted, before it has done its worst. Let us protect the ryot against extortion, and this by an improved judicial machinery it is not impossible to effect; but let us not be so far overcome by our zeal for the ryot as to sacrifice the importance of the landlord.

Those who would deprive the landlord of his most cherished rights and then drive him to litigation for the recovery of his just dues, cannot expect to improve the agricultural resources of a country whose prosperity, connected as it is so intimately with land, is entrusted to the landlord. The evils of the Indigo system have not been remedied by a judicial disarming of the landlord; and we cannot too severely condemn the policy which teaches the ryot to hope for the amelioration of his condition by successfully resisting the authority of his landlord. The Rent Act is however only in keeping with that series of hasty enactments which has jeopardised the value of property in land.

Intimately connected with this subject is the consideration of the subject of penalty for fraudulent breach of contract. If land must be occupied with advantage to the public, if advances must be made to incite native industry, the landlord

must have the power to distrain; and the capitalist must have a contract law to protect his advances. Those who make so much of the distinction between 'crime' and 'no crime' forget that the positive law which they so vauntingly parade is not altogether on the side of hair-splitters. In fact, between private wrong and public injury there is no essential difference. Again, considering that the contract law could only apply to fraudulent breaches, the opposition it has received from the leaders of native opinion must be regarded as a premium on dishonesty. The law only aimed, as was well put by Sir Robert Napier, to 'punish a dishonest contractor refusing to fulfill his 'engagement.' All that has been said against it seems, to be obviously dictated by a desire to support cunning against authority, and by the traditionary distrust of public officers. It is alleged against the Contract law that it tends to 'create serfage,' but its promoters may well remark that in its absence a favoured class of the natives is permitted unrestricted licence; nor is it clear to us, considering that the law would only apply to contracts entered into within the year, how it would revive old evils and swamp the law courts with trumped up charges.

Security is the very life-blood of capital. Where security does not exist, capital will not flow, and if advances must be made, security must be offered. Men who are not naturally honest must have a law which would punish dishonesty; but if honesty neither comes by nature nor is enforced by law, capital must stand still and commerce suffer during its stagnation. The insecurity engendered by a prospect of prolonged litigation is not less dangerous to the operations of capital than the troubles which attend war and public commotions. Let us, by all possible and just means, protect the ryot's liberty against oppressive landlords, but let us offer protection, to those who live by the employment of their capital. We are not advocates of a one-sided contract law, we desire that it should equally protect the laborer and the capitalist—the one against oppression, the other against fraud. We must offer the protection of law to capital; in its absence the operations of capital will be confined within such limits as are considered safe. Let us authoritatively determine the mutual liabilities of him who pledges his labor as well as of him who risks his capital, and we shall entail the necessity of circumspection on both contracting parties and ensure to them a position of mutual safety.

With summary power of distraint to protect his land and

the contract law to protect his capital, the capitalist-landlord has only to demand an undivided interest in land to improve and extend cultivation. Simplicity ranks only next to security and certainty in land tenures. Land must be placed under the care and control of single proprietorship, before it can attain that power of production which renders it so valuable in Europe and even in the newly settled colonies of the Southern World. Conflicting and involved rights of property in land check the free action of capital, while energy is hampered when it cannot operate with advantage either to the individual or the public. The charm of single and undivided property has turned barren wastes into smiling gardens, and has improved the productive powers of the soil beyond even the highest expectations. We must therefore enfranchise subordinate tenures and make the landholder the *de facto* lord of his acre. Even if the rights and property of some few must suffer under the change of owners, it is of the highest importance that the welfare of the large majority be not sacrificed to any sectional interest howsoever favoured or compassionated by the powers that be.

We must take leave of unavailing sentimentalism and endeavour to treat a dangerous malady with a firm and unflinching hand. In every social reform a small minority has always to make some sacrifice to promote the welfare of the community; a change which involves the freedom of land and labor can hardly be expected but at the cost of some private wrong. In investing the landlord with the absolute proprietorship of his land, and reducing the cultivator to his natural position of a tenant, even when the revolution is watched with care and solicitude, a small amount of pecuniary loss must be suffered by those who by the surrender of certain equivocal rights will secure harmony and mutual co-operation. The writer of the 'Land Revenue' views with evident satisfaction 'the land where rights of half a dozen kinds have existed for centuries,' and he might have added 'at the cost of the social and commercial prosperity of the country.'

We should therefore recommend the enfranchisement of all nominal rights of property, and compel all hereditary tenants, and tenants who pay at fixed rates to buy out the right of the proprietor or to sell their right of occupancy to the proprietor of the land. We should allow twelve months for the parties to arrive at some definite understanding; and, if they agree to preserve the conditions of existing tenure, their wishes should not be interfered with, but if they are not able to come to terms

the Collector of Revenue should authoritatively enforce the most reasonable offer, whether it be of the vendor or of the purchaser of the surrendered rights. It should also be optional with the tenant to give up a portion of his holding to enable him to enfranchise the remainder.

The ryot who buys out the Zemindar's right is entitled to the absolute proprietorship of his holdings, while he who sells his subordinate right is converted into a tenant at will. The success of the Putnecdar tenures, the avidity with which the Zemindars buy out 'copyholds' in Bengal, and the results of the enfranchisement of clogging sub-tenures in other parts of the world fill us with hopes as to the advantages which the country would derive from a land system based on simpler principles than those called 'first principles'. Landlords who are absolute proprietors of their lands will never be so short-sighted as to deny their tenants the benefit of a long lease; neither will they be jealous of investing such tenants with useful rights, when they can no longer pretend to aspire to a dangerous position of rivalry. We should also render the subordinate proprietors in every respect independent of the superior landlords; no obligation or engagement entered into by the superior landlord should impose a co-ordinate liability on inferior proprietors, unless the latter are willing parties to the contract.

As we propose to save land from conflicting rights, no good can result from any measure which, while it emancipates subordinate proprietors, fails to conserve the rights and privileges of the superior. If it was a mistaken policy to distrust the landlord as an ally, it was a serious error to drive him to the ranks of the enemies of order and to keep him in a state of chronic hostility to the domestic policy of Government. Having acknowledged the landlord as our foe it was natural to regard the ryots as persecuted innocents; but with all our meddling zeal in their behalf we have only succeeded in inspiring them with an ambition which may conquer by brute force, but will not emulate the victories of intelligence.

It cannot be denied that we were guilty of a wholesale destruction of subordinate rights when we permanently settled the richest province of our Indian Empire, but yet it was hardly necessary to avenge the cause of the injured by persecuting those who had only reaped the advantages of the injuries without themselves causing them. It would have become a powerful government, to have watched the consequences of its conduct without betraying any

unnecessary alarm. The course we followed was different: we succeeded in forgetting our own share in the evils which the Bengal system had produced, and, forgetting also the good it had done to the country, we persisted in meddling now with the duties of the landlord and then with the duties of the tenant, and in blissful ignorance we fancied that we had redeemed the credit of philanthropy which our solitary act of financial statesmanship had for ever imperilled.

It has been remarked with some truth that the dumb millions who conduce to the prosperity of the rich landowners are treated with lordly scorn, and that thousands of small proprietors are absorbed in the creation of one large estate. But if we cannot defend the conduct of those who are for ever keeping the ryot in his degraded position, we cannot, on the other hand, view the absorption of the miserable cottiers in the light of an evil. There cannot be two opinions as to the folly of creating a false position for the mere cultivator; in trying to raise him to a status for which he was not prepared, we have armed him with a power with which he may ruin, but cannot build up his fortune. It was said with a sneer but not without truth, that the ryots of India are indebted to us only for protection against Mahratta invasions. The rest of our policy towards them, has served to reduce them to poverty and invidious dependence. The bondage of the ryot may not be physically quite so severe, or politically quite so degrading, but morally it is not less ignominious than the bondage of the condemned negro. A freeman in the sight of the law he is the degraded child of poverty, and of moral dependence and the exercise of his rights as a freeman is absolutely an act of danger. Between landlords who mistake their interest and public officials who neglect their duty, between a corrupt police and hampered law courts the ryot seems to have had a destiny without hopes. A change for the better may not be distant; the spirit of reform, which is now reviving the withered limbs of the body politic, cannot but, sooner or later, reach the ryot himself; but it is not safe that he should any longer be permitted to continue in his present demoralised condition in hopes of an uncertain reform; we must put our shoulders to the wheel and aid education; European settlers will do their duty, and the growth of a kindly feeling among the landed proprietors towards their humble ally, are the means with which we must work out the regeneration of the Indian ryot. In times of trouble the importance of the labouring classes cannot be thoroughly appre-

ciated, nor is it necessary in the midst of the contest for dominion to conciliate the good-will of those who would implicitly follow the dictum of the conqueror; but peace and commerce stand in need of their labor, and for that labor to be valuable the laborers must be intelligent beings. Indeed, the ryot must be taught to look forward to a destiny far above the drudgery which supplies him with his daily pittance; he must be taught to look beyond the bliss of low rents and the glory of successful fraud.

At one time it was the fashion to compare the Indian ryots with the cottiers of Europe, though perhaps the only analogous point was the painful certainty with which they were both sinking under the pressure of altered times. In every other respect the ryot is not less removed from a cottier peasant than he is from the civilization of Western Europe.

The rise in price and the increasing demand for his labor cannot but improve the social prospects of the ryot, but it would be as well to admit that the work of regeneration is only just beginning. That to some extent he is conscious of the presence of evil which has so long influenced his destiny, is not deniable, though it is the fault of Government that the indications of such a consciousness should be exhibited in agrarian troubles and social commotion. Lord Harris attributes the degraded position of the ryot to moral causes, and yet but a little reflection would have convinced him that moral causes had in this instance been far less influential than political ones, and that whatever improves his political condition cannot but influence his moral and social condition for good. Such truisms it is painful to repeat, but in India they are still vexed problems of which our statesmen appear still to ask a solution.

It is only right for us to deal kindly with those whom we have injured, even if it were in ignorance; but care should be taken that what we call kindness be not, in fact, a dangerous encouragement to ignorant men who are already elated with hopes of unrighteous success. Let us take it for granted, and the position does not admit of controversy, that to befriend the ryot in a spirit of rivalry with the landlord is a serious mistake, and that we must give up the policy of setting the tenant against those whose best interest it is to help him, and to act in harmony with him. With the landlord for his enemy, the aid of government howsoever vauntingly offered, cannot avail the ryot. In Bengal the courts of law unconsciously, perhaps, allied themselves with the landlord, and the legislature in its wisdom

thought it necessary to arm the ryot with mischievous enactments. 'Interests,' observes one who ranks as an authority on the subject, 'so inseparably connected will always find in their 'relative advantage the most desirable security.' Yet the historian of India observed that the ryots were vested with 'the power to 'distress the Zemindar;' and what was still worse, having rendered the ryot obnoxious to the landlord, we virtually placed our law courts at the service of the Zemindar, to avenge himself on his enemy. Is it possible to conceive of a predicament more fraught with danger? We boast of having armed the ryot with a freedom of action which he did not enjoy before, but we forget that whatever the intrinsic value of this freedom may be, the ryot has not the good sense to exercise it with advantage to himself.

The miserably small patches of ground, which the ryot cultivates at a comparative loss of labour, hardly admit of a remunerative employment of capital. The little that he owns he cultivates badly, but he is so strongly attached to the soil that he prefers to eke out a life of misery on his wretched holding to seeking a just remuneration for his labor elsewhere. He lives in that state of happy uncertainty which leaves him nothing to hope and nothing to fear.

The multiplicity of small holdings leads to neglected and ill-cultivated farms; the landlord oppresses on one side and the tenants resist on the other. Small holdings not only waste the productive powers of land but cannot even remunerate outlays of capital, though they reduce the rent of the landlord as well as the wages and profits of the cultivators. Skill finds no opportunity, and capital cannot cure the inherent defects of patch-holdings, and the impoverished multitude who hang on them add still greater obstacles to the success of improvement schemes. When the average holdings of millions of cultivators do not exceed an acre of land, agriculture must decline, rent become nominal, capital almost unnecessary, and cultivable lands actually scarce.

The aggregation of multitudes on the soil, without the means to improve it, leads to that mischievous competition for land which ends in agrarian crimes, and low wages. Nor does the landlord escape the evil influence of an unnatural spirit of rivalry; he is less confiding and more exacting, and whatever be the prospect of his rent-roll in figures, he seldom realises his expectations. The ryot has to submit to a rack-rent which renders it impossible for him to take up new land; he cannot

improve what he already cultivates, and agricultural progress which is identical with territorial increase of cultivation is permanently arrested. Before we can hope to carry cultivation over an extent of land which would weaken the chances of suffering from partial drought, before we can increase the quantity and improve the quality of the raw produce of the country; before we can profit by the action of capital and the reduction of rent, we must emancipate the ryot from the slavery to which he is so fondly attached. We must give him his freedom even if it were against his will; we must free land from the curse of indigent cultivation, and the ryot must turn his labor to the wants of commerce and to professional industry.

The ryot must have a future; live he must, but he must live to his own advantage and that of the public. He may choose to cling to the land which has hitherto wasted his means, such as they were; but we owe a duty to the landlord, we owe a duty to the public as well as to the cultivator, and they all point to practical results through the emancipation of the land and the emancipation of the ryot: the former from the burden of a thriftless beggar, and the latter from the grasp of an exacting mistress. We have elsewhere proposed the means by which this emancipation is to be attained, and a few years of experience would establish that spirit of co-operation between capital and labor which we all desire. The emancipated ryot would profitably employ himself on manufactures and the public works of the country, and the emancipated land would thrive under the healthy influence of capital, energy, and intelligence.

The laborer would not be permitted to stand or fall by his wretched holding; his labor is of greater value to him when he abandons the land he cannot improve: Nagpore wants his labor and wants it in vain; in the most densely populated parts of the country there is a growing demand for it; railways suffer in its absence; Assam and British Burmah bid high for it, and yet we have allowed half a million of workmen to emigrate and millions besides to lay themselves out in bondage on land. We do not advocate a systematic mortgage of labor so as to convert it into a mere servile drudgery; but at the same time we can no longer suffer land to deteriorate under myriads of ill provided cottiers. It was the policy of the late Company to confine the ryot to the land, and the ryot has in turn confined cultivation within his limited means. He must now be compelled to leave his doomed patrimony to others, and to earn the fair

wages of his labor instead of wasting it in a hopeless struggle against poverty and debt.

We must also destroy that mischievous 'right of bare occupancy;' it was no doubt a cunning device by which ignorance attempted to compromise involved claims. If it be put to a man that the right of occupancy at fixed rates is analogous to the authority which one man may possess to use another man's property, the folly of tolerating such an anomaly would be to some extent apparent. The Rent Act of 1859 protects pauper tenants by investing them with the right of occupancy and thus reviving the dangers which we hoped we had outlived. A power, which is only effective for purposes of annoyance and too weak to produce any good, ought to be condemned, if it were only to save those in whom it is said to be vested. The miserable *Khond Khasi* of Bengal who passes away with his land does not possess, in law, the right to share in the alluvion which the proprietor of the land may claim and occupy. And yet the *Khond Khasi* can only be ousted by the merciful action of Ganges, as the law provides no other means for the extinction of this mischievous class of tenants.

The hereditary cultivators of the North West and the Punjab have been well entitled by one of our ablest fiscal officers 'as our greatest mistake.*' The regulations do not treat them as proprietors of the land they cultivate, and yet the proprietor himself derives no profit either from the land of which he is the reputed owner or the tenants of whom he is the reputed superior. Hereditary cultivators are neither tenants at will, nor proprietors; but it is their dangerous privilege to keep nor session of fertile lands and waste them at will or keep down their value by simply retaining possession of them.† Why not declare them proprietors at once? Why not legally invest them with the right of property when they can and do exercise that right indirectly, unfairly and injudiciously? The right of occupancy without the right of property has given the death-blow to many an enterprising speculator, without doing the tenants the least

* 'A tenant who can never be called upon to pay rent, is an inconsistency; converted into a sub-proprietor, he is the owner of an intelligible property.'
Cust to the Secretary of the Punjab Government.

† 'The more favored hereditary cultivator pays the revenue on equal terms with the proprietors, so that the latter derives no profit whatever from their lands'—Revenue Report for the Punjab. Mr McLeod further remarks that the creation of these tenants 'is prejudicial in many ways, militates against the improvement of the land and is altogether anomalous.'

amount of good. Subordinate or small proprietors have risen to wealth and have progressed in utility, but the hereditary tenants and the perpetual occupants without right of property, who seem to occupy a sort of unnatural position between a tenant and a proprietor, have neither profited the landlords nor profited themselves. Property in land should hereafter be purchasable like property in moveable goods; it may also be otherwise alienated, but length of occupancy should never again be permitted, unless it be adverse possession beyond the statute of limitation, to confer right of property.

Hereditary tenants cannot sell or mortgage their right; where the right was saleable it proved a more decided curse. In Ireland when the privilege of occupancy had a marketable value the landlords wasted their incomes in foreign countries, gave up all interest in the land, and to use the words of the Devon Commission 'this apparent property or security was the means by which the tenants were enabled to incur future incumbrances in order to avoid present inconvenience.' Land was locked up and property in the soil was not valuable enough to create a desire for improvement. What with the 'apparent right' of occupancy, the eternal right of pre-emption—a right which is only tolerable within well defined limits—about two-fifths of the cultivable land of India have been successfully protected against the encroachments of the ploughshare.

We must clear land of all nominal titles which have so long weighed down its resources. Let the landlord buy out his hereditary tenants and his *khood khast*, or let them purchase the right of property from the landlord. Subordinate independent proprietors are an invaluable acquisition in an agricultural country, they relieve the superior landlord of personal labor; they possess both his intelligence and his love of improving property; they bring themselves more intimately into contact with the land and tenants; they possess the means and the will to undertake small speculations, and they have not seldom protected the tenants against the oppression of the superior landlord. They are infinitely better managers of property than the speculating *Esaradars*, and do more good to the soil than the rich absentee who can waste his revenue with impunity.*

* 'The existence of intermediate tenures, which are heritable, and transferable and not terminable, is admitted by the highest authority; moreover, they do exist; they must increase &c.'—Cust to the Secretary of the Punjab Government.

When the hereditary tenant has sold his right of occupancy he may with advantage resume possession of his land on a written lease. A long lease under reasonable terms is a double blessing; the landlord would allow the tenants under lease to sink capital in the land when they cannot evade the conditions of the lease. If on the expiry of the term of the lease the land bears marks of improvements,—unless these improvements were effected at the expense of the landlord—the tenants are entitled to compensation. If it be possible, let all extraordinary expenses be incurred by the landlord, and let him raise the rent in proportion to the outlays incurred by him, or else let all improvements incorporated with the land be compensated under express contract. But tenant improvements,—the result of skill or money—which can be removed without losing their identity may be appropriated by the tenant.

However, should the landlord be averse to a long lease the cultivator must occupy the land as a tenant at will or seek occupation out of it. In a country where labor is scarce and the price of labor is steadily rising, in a country where there are only one hundred and thirty-six men to a square mile, the tenant who leaves his land and is willing to labor cannot die for want of work. If he continues a tenant at will he must submit to the rule of his landlord; a submission which does not in one case out of a hundred interfere with the just rights of the tenant.* As a tenant at will the cultivator cannot profit by any subtle or dishonest evasion of the terms of his '*pottah*' and will therefore not have recourse to them. He will be guided by his landlord as he needs to be, and it will not rest with him whether he chooses to improve the land or to allow it to lie fallow. In an old country tenants at will are the pioneers who facilitate the advance of cultivation. Let every ryot have a *pottah* with the legally prescribed particulars endorsed on it, and even if his tenure be only temporary, let it at all events be secured for the time. Tenants at will will form the advanced guard of agricultural progress under the directing intelligence of European capitalists; their labor must eventually ensure to them complete success; the land on which even speculators would not venture is reserved for the industry of the tenants at will, and in the great social economy they have an office peculiar to themselves.

* 'My idea is that a 'tenant at will' is what a literal interpretation of the words used show him to be. ** There is no law that can keep him in possession ** but it will be long ere in the Punjab the landlord will ill-use his tenant.'—Cust to the Secretary to the Punjab Government.

ART. VI.—*The Punjab and Dehli in 1857, being a narrative of the measures by which the Punjab was saved and Dehli recovered during the Indian mutiny, by the Rev. J. Cave-Browne M. A., Asst. Chaplain Bengal Presidency, Chaplain of the Punjab movable column in 1857*—2 vols. 12mo. London: W. Blackwood and Sons.

THE number of books to which the Indian mutiny has given birth is very large. We have personal narratives, and journals, and histories of campaigns innumerable, written by Special Correspondents, Officers in the Army, Civilians and their wives; and although some attempts have been made to produce a comprehensive work on this interesting subject, no reliable and satisfactory history of the Indian Rebellion has yet been offered to the world. Our proximity to this dire calamity may operate to hinder the formation of enlarged and philosophical views of it; but with some exceptions, to which we shall presently advert, our knowledge of the main facts and incidents is complete.

Viewing the subject geographically, we have Mr. Cooper's and Mr. Cave-Browne's works on the Punjab and Dehli. The Siege of Dehli has been treated of by Col: Norman, Rev. J. E. W. Rotton, Captain J. G. Medley, Dr. Ireland and some others. Col: Norman's *Report* is very dry and very authentic, while Dr. Ireland's *Narrative* is pronounced to be the best by an excellent authority, the *Friend of India*. The other two are not worthy of criticism. Col: Bourchier describes the pursuit of the rebels after their flight from Dehli, and the battle fought at Agra with the Gwalior contingent. The incidents of the siege of Lucknow and the mutiny in Oude are furnished by Mr. Rees and Mr. Gubbins. The story of Cawnpoor to the time of the embarkation of the English has been written by Capt. Thompson. But of the fate of the captives of the Nana Sahib, subsequent to Capt. Thomson's escape we do not know any thing satisfactory. That officer's assertion that after the siege our women were reduced to so disgusting a condition that no sepoy would have condescended to violate them is a gratuitous assumption, and is opposed to facts which have occasionally since pozed out, notwithstanding the anxiety of the few unfortunates who escaped alive and their friends to bury in oblivion the insults they had endured. Indeed the treatment of their European captives

by the mutineers at Meerut and Delhi is likewise enveloped in mystery, from a desire on the part of the historians to leave no record of our shame. Such delicacy we consider to be wrong. We trust that the author of the Indian Rebellion, whenever he enters on his task, will not be influenced by any such false ideas where the interests of truth are concerned.

The outbreak in Rohilcund, and the massacres perpetrated at Bareilly, Shahjehanpoor, Moradabad and Bijnore have never been described, except in short notices in the newspapers of the day. Of his experiences at Budaon Mr. Edwardes gives but a scanty account. The fate of the fugitives from Futtygurh remains to be cleared up. It is only known that they were all murdered by order of the Nana as they were passing Bitoor in boats. Large families have become extinct; but we should like to learn how. The difficulty in getting at the truth is mainly to be imputed to the fact that very nearly all the Europeans, nay all the Christians, who did not flee before the storm (and those who did could not have witnessed it) were exterminated, and the few survivors are unable or unwilling to make startling revelations.

The reconquest of the Gangetic Doab, Oude and Rohilcund forms the subject of Marshman's *Life of Havelock* and *Russell's Diary in India*.

Towards Central India, the outbreaks and their suppression are described in Pritchard's *Mutines in Rajpootana* and Lowe's *Central India during the Rebellion of 1857-1858*. Of Mrs. Coopland's work on Gwalior, it is sufficient to say that like Pliny's *Natural History*, it is an *omnium gatherum*, embracing the Zoology, Meteorology and Ethnology of the place. She has made a spasmodic effort to expand into a volume events which would barely have sufficed for a chapter.

The narratives of Mr. Edwardes during his concealment with Mr. and Mrs. Probyn in Oude; of Mr. Dunlop's skirmishes with the rebels in the neighbourhood of Meerut; and of Mr. Robertson's duties in the district of Saharunpoor, are episodes of the mutiny replete with interesting facts.

The only general history we have yet seen is that published by Messrs. W. and R. Chambers in 1859, written by G. D.—Who this writer is, whether possessed of any knowledge of India, or a mere compiler, we have no means of knowing. As the book was really finished in 1858, it is necessarily imperfect, for we have hardly yet obtained complete data for a comprehensive

history of the Indian Rebellion. In Dr. Nolan's History of India, scarcely a hundred pages are devoted to this topic.

But it is time we should turn our attention to the work of the Rev. Mr. Cave-Browne.

Although we are, as usual, indebted for Mr. Cave-Browne's book to 'the solicitation of friends whose opinions he valued,' (p. viii) it is certain that it is written on the sound commercial principle of *quid pro quo*; the Punjab officials having supplied him with facts, he repays them with praise. In the absence of specific acknowledgments it is impossible to estimate the extent of his obligations to them: 'his many kind friends, 'who have more or less helped with information'—and 'information came in from all quarters and in all shapes' (p. ix)—are named once for all in the preface; but there cannot be a shadow of a doubt that the return he has made is most liberal, 'very considerable indeed.' He is lost in 'feelings of admiration for the wisdom, the devotion and the heroism by which 'humanly, our preservation, was achieved' (page vii); and at page xi we have the commencement of a beadroll of nineteen officers, Civil and Military, of the Punjab, who are extravagantly eulogized, many of them deservedly, but none of them, we are assured, in such terms as they would sanction. Dehli would have fallen although a John Nicholson had not been there, for there were hundreds of thoughtful heads, and thousands of brave hearts and willing hands; and although we consider Sir Stuart Corbett entitled to great praise for his proposal to disarm the Native Troops at Mean Meer, we cannot think he performed 'an act which made men wonder—and hope.' This propensity to indiscriminate adulation which pervades both the volumes, and which must be nauseating to most readers possessed of ordinarily healthy stomachs, does not however satisfy the tender conscience of our author 'who cannot but fear that notwithstanding all his endeavours, he may have done, or seemed to 'have done, less justice to some of the brave men to whom England 'owes so much. Again, he feels that the narration of their gallantry and prowess may lack that glowing interest with which 'the mind of the reader, vaguely familiar with the glorious results, 'has already encircled them' (p. x). We sincerely hope that the thirty-three Officers and 'many others' (p. xviii) who supplied information will compensate the Reverend Gentleman for his excess of praise by ordering large numbers of copies of his work for presentation to their friends.

We beg respectfully to intimate to the author our conviction that his suspicion is quite correct, that 'he has allowed his sympathies with the Punjab to carry him beyond bounds, and that 'in the praises he has bestowed on the administration of that 'province, he has wronged'—not so much 'others' (p. xiv) as those he has made the subject of his fulsome eulogiums.

We consider the hypothesis that the rebellion was essentially of Mahomedan origin, and that the Hindoos were the dupes of Mahomedans, to be unsupported by facts. It is true that the nominal head of the mutiny at Dehli was Bahadoor Shah, the ex-king; but at Cawnpore Nana Sahib, a Brahmin, was the actual leader. We believe that our rule is hated by Mahomedans and Hindoos alike. Any distinction between them is purely imaginary.

What has led Mr. Cave-Browne to say that the Khalsa, or the Sikh soldiery, held the Poorbeahs in supreme 'contempt' (p. xv) we are at a loss to imagine. We should be glad to learn on what authority this assertion is based. Any one acquainted with the organization of the Sikh army must know that Dhowkul Sing, a Poorbeah, and perhaps a deserter from our army was for many years the Commander-in-Chief of Runjeet Sing's army. Jamadar Khoosal Sing, a most influential person in Runjeet Sing's court, was a Poorbeah, and his nephew, Raja Teja Sing, the greatest native at Lahore, was a Poorbeah by descent, and most of his dependants are Poorbeahs. In truth we should not be far wrong in stating that one-fourth of the Khalsa army consisted of Poorbeahs, who were to be found in all ranks. There is a quarter in the town of Lahore long known as Mohalla Poorbeah. Then again, the famous sacred cities and rivers of the Sikhs, who are really Hindoos, are all in the Poorub; and to this day vast crowds of Sikh pilgrims resort to Kashee or Benares and Prag or Allahabad. Indeed Sikhs are frequently met with who have performed their devotions at the shrines of Gyah and Jugurnath. The Ganges at Hurdwar is visited annually by thousands of pious Sikhs. All who can afford it, send the bones of their dead to the holy stream of the Ganges. Can we then credit the statement that the Sikhs despise the inhabitants of countries which they believe to have been the scenes of the exploits, of their gods, and intercourse with which they feel to be necessary to the salvation of their souls?

The term *Poorbeah* was not 'revived' with the mutiny as

Mr. Cave-Browne supposes, but began then to be generally used in the English language, we believe from necessity, as it had always been employed in the vernacular in all parts of India. His idea of its revival widening 'the breach between the Punjabees and the Hindoostanee' is purely imaginary. We have shown that there was no breach, but perfect amity between the two peoples. But our author is not singular in cherishing such an idea. Sir R. Montgomery, the Judicial Commissioner of the Punjab, was evidently influenced by it when (in 1857) he issued orders for the dismissal from their situations of all Hindoostanee employes, and for their deportation to Hindoostan. He may have wished also to guard against their active sympathy with their brethren who were fighting against us at Dehli and elsewhere, but the main design was to conciliate the Punjabees and foster in them a spirit of hostility to the Hindoostanees. We consider this policy to have been erroneous. It exasperated the men who were subjected to undeserved punishment, it increased the number of the disaffected in the cities and villages of the North West Provinces, and it had really no effect on the Punjabees, who looked with indifference on a measure that subserved no ill-will on their part.

While orders were issued for the expulsion of Hindoostanee servants from the Punjab, the Judicial Commissioner recorded a paper in favor of native Christians who were to be admitted into the service of the State on the same terms as the Punjabees, if found to be equally qualified. We believe both these orders have now become a dead letter. An official report just published shows that one third of the native establishment consists of the natives of Hindoostan, except in the distant frontier districts which offer little temptation to adventurers, while the proportion of native Christians is—nil!

In attempting to trace the causes of the mutiny we think the author has overlooked some important facts. The universal feelings of mankind ought to have led to the conclusion that the rule of foreigners, alien in religion, habits of thought and civilization, however benevolent and enlightened, could never have been heartily acceptable to the natives. Some statesmen, possessed of more than ordinary foresight certainly did advert to a time when an effort would be made to cast off our yoke; but these were looked on as visionaries by the generality of our countrymen, whose confidence in the loyalty of the Asiatics to their salt went to such extravagant lengths, that during the

Persian campaign of 1856 it was gravely proposed to conquer that country by raising an army of Persians on the spot. It is true that the natives of India, soldiers as well as civilians, had generally so well disguised their deep aversion to us up to 1857 that they obtained credit for an utter absence of patriotism. Indeed it was said they had no word in their language expressive of the idea.

This well concealed, but ever present feeling of hatred to a foreign domination was enlivened with hope by our disasters in Afghanistan. The sepoys and camp followers then for the first time saw that we were not absolutely invincible ; and that our prestige was there seriously impaired in their estimation is proved by what subsequently took place at Patna and led to the enactment of Act XIV of 1849.

The cartridge blunder contributed to blow into a flame the embers of bitter hatred which had smouldered for a century, for it offered a grievance in which both Mahomedans and Hindoos could cordially unite. Caste is a thing in which they all pride themselves. However inferior they may be in wealth and power to Christians, in caste they are their superiors, and any attempt to take away *that*, if successful, would in their opinion debase them to the condition of brutes. This led all parties to combine in measures of resistance to the Government. The distribution of *Chupatees* was only a mode of giving intimation to the dwellers at a distance of the designs of the rebels. Mr. Cave-Browne justly remarks 'that therein was 'really hidden an eastern symbol of portentous meaning.'

We however doubt his authority for stating that 'the great 'body of the Hindoo sepoys, mere tools in the hands of 'the Pundits who had been first won over, were caught in the 'trap laid for them by the wily Mahomedan.' (p. 6). Our conviction is that we are equally obnoxious to both, and that the Hindoos never needed the influence of any trick to join the Mahomedans willingly in treasonable plans. Who tampered with and won over the Pundits? Who are the Pundits that were tampered with? The sepoys and the rabble of the towns and villages, who without distinction of caste or creed, thirsted alike for European blood, could not possibly have been under the same spiritual guidance.

How contentedly the Hindoos obeyed * a Mahomedan king in Oude we have ourselves seen. The occasional collisions between a few fanatics of the differing creeds in the month of Mohurum

had nothing to do with their loyalty to their sovereign. At Bareilly and other Mahomedan towns in our older provinces such disturbances sometimes occur and lives are lost, but as they have really no political designs, so no one thinks of giving to either party any credit for affection to their rulers. It is singular how far a love of theory will carry even an honest historian. For our part we should be delighted to believe, if Mr. Cave-Browne will only afford us reasonable ground, that we are liked by the Hindoos, who would not have murdered our women and children if they had not been entrapped by the Mahomedans; but we have no hope of being led to think so well of them.

The prominence which our author gives to the designs of Persia and to the Persian Proclamation ('which possibly received 'its inspiration still further north' (p. 4)—Russia?) we conceive to be quite mistaken. There doubtless was some coquetting with Persia on the part of the ex-king of Dehli, but we cannot allot to Persia any share in producing the Indian rebellion.

The annexation of Oude was undoubtedly particularly distasteful to the sepoys. That, too, was a political blunder. The Government of that country had been bad always, and afforded no good plea in 1856 above all other years for its destruction. It was a breach of public faith to annex the country, and the Poorbeah sepoys had their dependance on our truth terribly shaken by that measure. We know the effects in our own country of the falsehoods of Charles the First.

We are inclined to place in the following order the causes which brought on the mutiny.

1st. Hatred of foreign rule.

2d. The disasters in Afghanistan which revived the hope of casting it off.

3d. The annexation of Oude.

4th. The greased cartridges which offered a common grievance to sepoys of both creeds.

5th. The machinations of the ex-king of Dehli, who volunteered to head the rebellion.

The question whether the earliest display of disaffection, if met by condign punishment, would not have nipped the rebellion in the bud opens a wide field of speculation; but want of space forbids us to do more than briefly to give our own views on the subject. That the measures taken to repress the earliest overt acts of mutiny were distinguished by a singular want of judgment we fancy no one will now dispute.

'Up comes Mr. Commissioner Pordage with his diplomatic coat on.'

'Captain Carton,' says he, 'Sir, what is this?'

'This, Mr. Commissioner, is an expedition against the Pirates.'

'It is a secret expedition, so please keep it a secret.'

'Sir,' says Mr. Commissioner Pordage, 'I trust there is going to be no unnecessary cruelty committed.'

'Sir,' returns the officer, 'I trust not.'

'That is not enough Sir,' cries Mr. Commissioner Pordage, 'getting wroth. Captain Carton I give you notice. Government requires you to treat the enemy with great delicacy, consideration, clemency and forbearance.'*

We trust to show how religiously Mr. Commissioner Pordage's injunctions were obeyed in this country.

At Berhampore 'were quartered the 19th. Native Infantry, the 11th Irregular Cavalry and two guns of a native Battery. The rumour of the obnoxious bullock's fat was not long in travelling so far, and there were apparently in the 19th. N. I. men prepared to make good use of it for their traitorous ends. In the middle of February the Regiment avowed its determination not to touch the suspected cartridge. In vain did the Officer Commanding (Colonel Mitchell) offer the assembled Native Officers the most solemn assurances that no new cartridges had been sent there; that those in daily use had been left by the 7th N. I. whom they had relieved; and that nothing was further from the wishes of Government than to coerce their religion. When he found them still determined'—what did he do? Did he suspend further solicitations and apply to Government for a European Regiment or for Battray's Sikhs to coerce his men to obedience? Or did he take steps to assure himself of the loyalty of the 11th Irregulars and the Native Artillerymen as likely to act against the 19th N. I.? The latter measure most men would have deemed superfluous; for the sepoys would never have proceeded to the lengths they did without the concurrence of the horsemen and gunners. However, the Colonel did nothing of the kind, but—'warned them that on the following morning the usual cartridges would be served out, and any man refusing to take them would be tried by court martial and punished!' We presume Colonel Mitchell put on his 'diplomatic coat' when he announced this order. Besides the magic

influence of that article of dress there was nothing to insure obedience. To proceed with our quotation.—‘This occurred in the afternoon of February 26th. In the dead of night the men rose, rushed to the bells of arms and carried off their muskets and ammunition to their lines. Colonel Mitchell at once ordered out the 11th Irregulars and the guns,’—with what object is not stated. ‘The presence of this force, instead of overawing only exasperated the sepoys; they rushed out of their lines in a menacing attitude and many of them began to load. They were ordered to lay down their arms, but they demanded the withdrawal of the Cavalry and guns as the only terms on which they would do so. Their demand was complied with, and after some delay they sullenly piled arms and retired to their lines.’

What can account for such fatuous conduct but a firm determination ‘to treat the enemy with great delicacy, consideration, clemency and forbearance?’ The Colonel had evidently made up his mind that no lives should be sacrificed in the attempt to secure such trifling objects as the maintenance of military discipline and public tranquillity. We do not mean to imply that the Cavalry and Artillery would have attacked the mutineers; indeed we are persuaded that any order to charge or fire would have been at once disobeyed and the entire force would have fraternised on the spot. But the careful abstinence from any effort to coerce, and the weak compliance (to use no term more appropriate) with the extorted demands of the mutineers were enough to spread far and wide the dangerous impression that the Government could not resist the sepoy army. Our author’s pleas in defence of Colonel Mitchell’s conduct will not bear the test of examination—‘he had no European troops to fall back upon; there was no Colonel Gillespie with his English Dragoons within reach; even Rattray’s Sikhs were too distant to be available.’ Why did not Colonel Mitchell, when he found his men determined to disobey orders, report the fact to Government and wait till a European Regiment could be sent to Berhampore? There was apparently no danger in a state of quiescent mutiny, a state in which the 19th N. I. had continued from the middle of February to the 26th of that month. In a month from that date a force sufficient to subdue the mutineers, we believe, could have been assembled from stations extending to Dinapoor on one side and Calcutta on the other. As to the presumed fidelity of the 11th Irregulars and Artillery, the Colonel evidently had no faith

in them from his abstaining, at the critical moment, to order them to act against the mutineers. If he trusted them, and still would not order them to act, his conduct is still less excusable.

The Governor General, unfortunately for India, seems to have been actuated by convictions in perfect harmony with those of Colonel Mitchell; for after the 19th N. I. had been ordered to Barrackpore, it was *punished* for defiant mutiny by simple disbandment, a decision at which Lord Canning arrived at the end of March, or some five weeks after the outbreak at Berham-poor. The mutineers were dismissed with all honour; they were paid up to the last day; received a present of their uniforms; had the expenses of their march defrayed; and medical officers with medicines were sent with them as far as Chinsurah!

All this truckling to the sepoys of the 19th N. I. took place on the 31st March, two days *after* the 34th N. I., also stationed at Barrackpore, had encouraged Mungal Panday to cut down their Adjutant Lieut. Baugh and the Sergeant Major. 'The whole regiment had turned out and stood looking on, hooting and yelling, and some of them were heard crying out 'kill the Feringees' (page 20). The 34th N. I. that is, the seven companies * at Barrackpore were also disbanded on the 6th May!

Our author justly observes that 'the seeds of sedition were 'thrown broad cast over the land.'

The question has been raised whether mild and conciliatory measures, such as Lord Canning adopted, were not better calculated to dispel suspicion and alarm in respect to such a vital subject as *caste* than the infliction of the punishment usually awarded for mutiny. Now that the storm has blown over us and passed, it may be said that it requires no penetration to tell what would have been the wisest plan to meet it. But the experience of all ages all over the world, and of India in particular, points to death as the sole appropriate penalty of open and defiant mutiny, and the only means of stopping it. In acting contrary to the practice of all time, Lord Canning evinced no statesmanship. He put his crude judgment into the scale against the wisdom of mankind, and the consequences of his error were fatal; mutiny and rebellion all over India, the destruction of myriads of lives, and the loss of millions of revenue. 'These, we fear,

* 'Three companies were on detachment duty at Chittagong, and allowed 'to retain their arms which at a later period they used with murderous effect.'

are not all. That incubus, the Income tax, is still harassing us. All observant men see that an extraordinary change has come over the native mind, owing, we conceive, to the weak policy pursued by the Governor General. The respectful and friendly demeanour of natives towards Europeans, which prevailed before the mutiny, has been exchanged for a frowning aversion, and when an officer in authority cannot be boldly stared at, he is certainly saluted with a *saluam* as he passes, but the saluter incontinently gets a simulated fit of coughing, and his hatred is expressed by spitting* as soon as the officer has passed on. We have heard of an instance when an officer, riding at dusk through the town of Lahore at the end of May 1857, was greeted occasionally by most extraordinary sounds made by the shop keepers. Those who understand native character and habits know what these signs and sounds signify. We would ask what worse effects would have followed had Lord Canning proceeded in the manner prescribed by the vulgar experience of mankind? The probability certainly is that as at Vellore in 1806 and at Barrackpore in 1825, so in 1857 mutiny would have been effectually suppressed either at Berhampore or at Barrackpore.

Unfortunately the example of imbecility set by Colonel Mitchell and followed by Lord Canning was faithfully copied by the Commander in Chief, General Anson. Drigpal Sing, a Soobadar or commissioned officer of the 36th N. I. who at Umballa taunted two non-commissioned officers of his corps, temporarily attached to the Depôt of Musketry, with having become Christians, and had them put out of caste because they had used greased cartridges, was mildly told that his conduct was 'unbecoming and unsoldierlike,' while the victims of his villany were to be 'severely censured,' and one of them had his promotion stopped. Lieut Martineau the Instructor at the Musketry

* At Rampore a town belonging to an independent Nawab in Rohilkund, bravoes come to deadly encounters merely by spitting at each other on the ground without uttering a word. 'Sir T. Metcalfe had also retired from the Calcutta gate when he saw the serious turn that matters had taken and rode off to the Kotwallee (the native police court) in the Chandnee Chouk and ordered out the Police to guard the other gates of the city. But treason had been busy here too. That name which had with little intermission been associated with the city for above 50 years had now lost its power; the nephew of Sir Charles Metcalfe was no longer recognized in Delhi. The Kotwal received the order and spat upon the ground; the police heard it and smiled.'—Page 62.

Depôt in vain represented that 'the greased cartridges alleged 'to be smeared with cow's and pig's fat were more the *medium* 'than the original cause of this wide spread feeling of distrust 'that is spreading dissatisfaction to our rule,' and in vain did he suggest that a European Court of Enquiry should be held at Umballa, where every night public and private houses were being destroyed by fire. All that General Anson did was to order at first the suspension of the use of the greased cartridges, and afterwards (on 17th April) to make the whole Brigade use them, 'and that night some thirty thousand rupees worth of 'government property was destroyed by fire.'

Major General Hewett at Meerut followed suit; for on the 10th of May he allowed the 3d. Light Cavalry and the 11th and 20th Regiments of N. I. to force open the central jail, to murder all Europeans who came in their way, to burn and plunder the station and to march off quietly to Dehli; although he had then and there about 2000 Europeans of all arms ready and anxious to fight the 2000 natives. Not a man was sent to mark the road the Mutineers had taken and to warn the authorities ahead. Mutiny and cruel massacres at Dehli on the 11th May were the consequences.

Had the Mutineers been vigorously attacked when they broke out on the 10th, it can hardly be doubted that those of them who escaped would have dispersed quietly to their homes. Had the Major General even prosecuted the pursuit to Dehli next morning, the results would have been very different; for that arch traitor Bahadur Shah, the nominal king, refused to give open countenance to the besiegers of the Dehli Magazine till his messengers, dispatched on fleet camels towards Meerut, returned in the middle of the day and reported that no avenging force was approaching from that station. The gallant Willoughby defended the magazine till resistance to the swarms of besiegers appeared to his little band to be hopeless, and then 'he 'rushed to the small bastion on the river face—one more look—'a long anxious look—towards Meerut, but not a sign of coming 'succour.' He lost heart, blew up the magazine, and effected his escape with his few surviving subordinates, leaving immense stores of warlike material in the hands of the rebels. To what deeds of heroism would not a sight of the 6th Dragoons or 60th Rifles coming from Meerut have urged this brave little band!

It was at Lahore that the mutiny first received a blow which

staggered it. Sir Henry Lawrence at Lucknow was unable to offer any check owing to the paucity of the Europeans at his disposal. He did all that a wise and courageous leader could do; he provided for the safety of his small garrison, but that was all. But no sooner had the electric wire flashed from Delhi the startling intelligence, 'the sepoys have come in from Meerut and are burning every thing'—than Sir Robert Montgomery, then Judicial Commissioner, in a council of heads of departments, declared his conviction that, nothing 'but a prompt, vigorous course could save the city and prevent an effluence among the Meer Meer sepoys.' The plan at first formed of depriving the native troops of their gunpowder and gun caps was soon perceived to be insufficient.—When the possession of arms was illegal and subjected the offender to fine and imprisonment no difficulty was experienced in producing them when occasion required, it is not to be supposed that merely emptying the pouches of the sepoys would make their muskets useless to them. Brigadier Corbett, later in the day, resolved, at the suggestion of Colonel Macpherson, Military Secretary to the Chief Commissioner, to disarm the native troops altogether. Mr. Cave-Browne gives the credit of the disarmament entirely to the Brigadier, and the responsibility of the measure undoubtedly rested with the latter, but Colonel Macpherson should not be deprived of the merit of the suggestion. Sir R. Montgomery too passes over the circumstance in his 'Mutiny Report' 'I suggested,' says he, 'that they (the sepoys) should at any rate be deprived of their ammunition and percussion caps. To this Brigadier Corbett readily agreed, and subsequently, with most praiseworthy boldness, determined to disarm them entirely. He executed this measure the next morning, the 13th May, in my presence in a most masterly way.'

Our author is incorrect in stating that the 16th N. I. (Grenadiers,) hesitated till Colonel Renny's order 'Eighty-first load, and the ominous ring of each ramrod, as it drove home its ball cartridge, carried conviction to the heart of the waverers—they sullenly piled arms.' (p. 99) H. M.'s 81st Regiment went to the parade with loaded rifles. It would have evinced bad generalship to have postponed the loading to the last moment when the loss of a few seconds may have involved the failure of the attempt.

It was fortunate for India that Sir John Lawrence, the Chief Commissioner, was at that time at Rawul Pindie, and that tele-

graphic communication had been temporarily stopped; for when this *coup d'état* was reported to him he disapproved of it, and said that had he been consulted, he would not have sanctioned it!

The Telegraph Department may be said to have been, under Providence, the salvation of India, both by its usefulness and its defects: for while it brought to Lahore the news of the mutiny at Dehli, it failed to convey them to Rawul Pindie; and subsequently to its complete stoppage between Calcutta and Lahore we may ascribe the success of the siege operations before Dehli, which were assisted by the vigour of Sir John Lawrence, unfettered by instructions from Lord Canning.

We shall not enter on the consideration of our author's narrative of the siege of Dehli, or of the outbreaks as they occurred at several stations in the Punjab. With the exception of a strong Punjabee bias, which Mr. Cave-Browne does not disavow, we have no fault to find with his work. The errors that exist are unimportant, while the style and matter are so attractive that they carry the reader most agreeably through the two duodecimo volumes.

CRITICAL NOTICE.

Chesson and Woodhall's Miscellany.

During the last two years, or rather since the changes in 'Dickens' Household Words,' the result of which was the establishment of 'Once a Week;' and 'All the Year Round' in which is incorporated the old 'Household Words,' there has been an extraordinary increase in periodical literature in the mother country: almost every writer of the day now writes his story by instalments, and every kind of article, from a learned disquisition on the most abstruse subject to a highly spiced romance, now finds a place in a monthly or weekly periodical. The wave has passed on carrying all before it, and its ripple has even extended to India, giving an impetus to the literature of this country. One result amongst many is the birth and appearance before the reading public of two new monthly periodicals,—'Chesson and Woodhall's Miscellany' published at Bombay, and 'The Punjab Universal Magazine' at Lahore.

Our first feelings when we heard of these additions to our library, were of satisfaction, we anticipated sensible articles on Indian subjects, and thought that Indian periodicals would treat of India and its people; that their manners and customs, social and moral, their feelings, vices and virtues would be discussed with reference to education and progress, that some of these secular topics so all-important to the white as well as the black subject of this Empire would be dwelt upon in these new works, and we expected nought but good could come of such discussion, and welcomed them accordingly, but how deplorably we have been disappointed may be seen by inspecting the table of contents of any one number.

Our business is now with 'Chesson and Woodhall's Miscellany' only, and in lamenting that it is not what we wish it were, we are bound to state that no promises have been broken. In a review of the past year's work, which is in consonance with the past year's preface, we are informed that the style of the 'Miscellany' will remain unchanged; 'that the Army' (Bombay?) 'complained that they had no organ; the Church also wanted to be heard.'

We must then take this Magazine as we find it, a neat buff colored paper outside covers about one hundred pages of matter, on the first page we have generally a piece of poetry; further on at intervals may be found two or three other pieces, variously entitled according to the taste of the authors 'sonnets,' 'odes,' 'stanzas,' 'idyls' and 'lines:' sometimes to create in us a zest for these side dishes we are informed in a marginal note, that the author's age was only so and so; at other times a melancholy interest is claimed on the ground of the writer having died, soon after writing the 'ode,' we are left to draw our own conclusion as to whether the death was natural, or resulted from the effort of producing the 'contribution.'

We readily grant the truth of the heading 'Original Poetry,' this is patent, and requires no demonstration; but we do not think that originality is always a merit, and for third rate originality we should hail the substitution of selected pieces from our own glorious poets; that care and labour have been bestowed on these pieces, and that there is a fair amount of rhyme in them, we do not deny; but poetry is a wild flower, not a hot-house plant, and poetical genius is a gift, not an art. Most of us have tried to write poetry at some time or other, but few have had recourse to type to immortalise their folly.

We next come to the body of the Magazine, which consists of stories and tales, sometimes worked out to great length throughout many numbers, after the manner of the great novel writers of the day. In producing these stories the authors have certainly good example, but the mantle of Dickens and Thackeray is not on *their* shoulders, the author of "The Doomed House" cannot think that a nation is awaiting with interest the denouement of his plot, or the writer on 'Amateur Acting' suppose that any one, lay or professional, is looking for the next number to assist his studies in the histrionic art. No! When the real article can be obtained at a less price and with equal punctuality from England, why go to Bombay for an imitation of it? If the quantity produced is sufficient for the home consumption, it will surely suffice for the Indian demand, and if it does not, plenty more can be obtained at a better and cheaper market than the Indian.

At one time we felt almost kindly towards the author of one of these stories, we thought he had justified his good taste by retirement in the middle of his story; but no, after several months of silence this gentleman is to the fore again; the 'Raymond family' still exists, and Calcutta life of the present day is to be handed down to posterity in the record of its history.

The next part of this Magazine consists of romances where all the parties and the plot are in India, semi-Indian we may call them. The authors evidently know that India ought to be their theme, but they seem unable to conquer old predilections, they look back and hanker after the Sodom of love stories while they find India and the mutiny era replete with the requisites for their tales: the result is an unhappy combination of love, pathos, and India, mixed up with Cashmeer scenery, beauteous dark-eyed daughters, and a ride on the Peshawur course.

In a tale called 'Happy days in Cashmeer,' the writer dates his story from the occupation of Delhi by our Troops during the late mutiny. The King had been taken prisoner, with his surviving sons, his servants and retainers had fled, and the two princesses, the last of the house of Timour, were hiding to escape the vigilance of our soldiers: at last by the aid of a faithful follower they effected their escape to Cashmeer. We are told that once when these girls were walking about Delhi the European sentry was struck dumb by the flashing eyes of the princess our heroine; indeed his hardy manhood instantly obeyed the imperious look of the child as she drew herself up before him with royal bearing, and cast such a piercing look on him 'that he in an instant presented arms,'—a pretty idea enough, but what a lamentable ignorance of Mahomedans is displayed, when a Delhi Princess while walking abroad unveils herself in the public way to a gaping sentry, while, on the other hand, he is knocked all of a heap by the stare of a little black girl.

The above is a fair sample of the ideas that are worked out in this story; characters are drawn with a like want of appreciation of the subject, the feelings, the education, and position of the parties concerned; impossible thoughts are put into native brains, and absurd words into their mouths, while finally the heroine falls in love with and is married off hand to an English Officer whom she meets, while he is on a sporting tour in Cashmeer. There is a beautiful silence upon the matter of religion, we are not told whether he becomes a Mahomedan, or she a Christian, nor is any mention made of the marriage ceremony.

But though we are contented to waive, poorness of style, looseness of diction, and improbability in the plot, we cannot allow fiction to be pointed against an individual or a class without a passing censure.

At the period at which this story is dated, the Deputy Commissioner of Delhi was perhaps of as genial a nature as any man in India, yet we are told that this official, through an obsequious dread of the Punjab Government declined to drink a peg *i. e.*, a glass of soda water with a little brandy in it! Does the writer really mean us to believe with this? or is it pure ignorance on his part? We will give him the benefit of the doubt, and concede that he seems to know as much of Punjab Civilians as he does of Delhi Princesses. Perhaps the writer did not refer to an individual in the above, but to a class, we assert however that the picture is as untrue in the one case as in the other. With the same animus we have a picture of the Punjab Government Secretary, a competitioner familiarly entitled a Wala, with the euphonious name of Mr Green Poppy; this gentleman has to write a reprimand to an officer in the Civil establishment, and while doing so, the delinquent's wife casually visits his office, reads the letter just written by the Secretary, and induces him to change the 'wig' into a letter, informing the offender that he has been promoted to a Commissionership; this is explained by the statement that the wealthy connections of the offending civilian had aided Green Poppy when he was in distress; and the lady having obtained what she wanted for her husband retires observing 'I know how to deal with a Wala—the vulgar creatures they can never face a lady.' Mr. Secretary Poppy is succeeded by one Blubber, who faints at the sound of a horse galloping up to the office. All this requires no comment we need not add to our extracts, the style speaks for itself, and probably no competitioner would trouble himself to answer such atrocious stuff.

We have shown that the writer of 'Happy Days in Cashmeer' understands neither his own countrymen nor native ladies, the scenery may be well described, and the 'Baboo' faithfully drawn, it would be hard indeed, if the author did not sometimes say a sharp thing or a true word. But taking the piece altogether, we must give it unqualified condemnation.

The next story on this cross-bred plan of love and India is called the 'Corpora Quadrigemina.' The writer is the fourth of four medical students who studied together and gave themselves the above title. His autobiography tells us that he and one of the others (for two died of dissipation) arrived in India, of course, just before the mutiny of the Bengal army; the friends soon separate and our author finds himself after some hair-breadth escapes attached to the Central India field force; he tells us a great deal of himself and a little of the mutiny, this little is however truthful; but a morbid love-sick vein runs throughout his narrative, and we are curious to see how he extricates himself from his position with two sweethearts, for unlike the author of 'Happy Days in Cashmeer' who tells us

- " 'Tis well to be merry and wise,
- " 'Tis well to be honest and true,
- " Be sure you'r off with the old love,
- " Before you'r on with the new."

we find that the writer of Corpora Quadrigemina in looking for his lost 'Kya' finds her servant and falls in love with her, on the spot, though her antecedents were not the most spotless that could be conceived; she reciprocates his passion, and we very much fear that the aid of the grim monster death will have to be invoked to set matters straight, and then of course the native will suffer.

It is well remarked by Swift that men of great parts are often unfortunate in the management of business, because they are prone to go out of the common road, by reason of the quickness of their imagination; in proof of this;

he desired Lord Bolingbroke to observe that the clerk in his office used an ivory knife with a blunt edge to cut a sheet of paper: 'whereas if he should make use of a sharp pen-knife its sharpness would often make it go out of the crease, and disfigure the paper,' and so with a writer, and more than all with an Indian writer, the crease must be kept to, we do not want clever writing but faithful life-like pictures, that can only emanate from the pen of a calm and discriminating observer of human nature. The reader can judge by the following incident told by him whether the author is qualified by his knowledge of natives to write of them and their customs.

We will put it in as few words as possible; it has been already stated that the author had lost his Eva; without her all things were dark to him, life was a blank, and after making various plans to discover her, he formed the idea of entering the native town in the garb of a Hindoo Faqueer; so having obtained some 'holy water', and some salmon colored clothing, he disguised himself, proceeded to the bazaar to glean information of his beloved; having sat down there, 'I placed the two baskets of holy water before me, uncovered them, and exhibited the bottles of precious liquid packed in the leaves of the banyan: I feared much lest I should betray myself, and therefore determined on a very reserved demeanour and manner of speech, occasionally crying "Allah" in a fervent voice, I attracted notice, and soon disposed of several bottles of the Ganges water.' At last three Mahomedan troopers approached our hero 'to purchase of the waters of paradise,' he greets them with 'Allah is great, take of the waters my son' &c &c. In the above short extract we have the astounding picture of a Hindoo Faqueer crying out 'Allah' while he displays Ganges water for sale! Why a Hindoo should praise the Moslem God, or a Mahomedan buy Ganges water, or what the water of Paradise is, we are not informed by this tantalizing writer; verily it is a fearful and wonderful jumble of ideas, and we cannot disentangle them.

We have now noticed the two longest contributions to this Magazine, in which has also been published some notes on Knight's Plays of Shakespeare by C. A. D. Gordon, which had already appeared in the 'Lahore Chronicle,' as might be expected these are eccentric, and Mr Gordon often comes to grief himself in his attempts to point out errors that he conceives the able author has committed. One or two good articles have appeared, evidently written by a man whose information about the Punjab exceeds his love for it, but of late we have not noticed any thing from his pen.

Captain Raverty's Dictionary has been again demolished by his able and untiring critic, who takes the opportunity of again refuting the hitherto pet theory, that the Afghans are descended as they themselves assert from the lost tribes of Israel.

Considering the size of the Magazine, we are surprised at the very few readable articles in it. We cannot buy a cake for the chance of there being one currant in it, and as we said before, we conceive the compilers have committed an error in adopting the line they have; we have shown that their few stories about India are unreliable, and for their instruction we cannot do better than conclude this short notice of their periodical by a quotation from Lord Bacon.

The opinion of plenty, is among the causes of want; the great quantity of books maketh a show rather of superfluity than lack, which surcharge nevertheless is not to be remedied, by making no more books, but by making more good books, which as the serpent of Moses, may devour the serpents of the enchanters.

